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OM protein - protein search, using sw model

Run on:          July 11, 2003, 12:44:23 ; Search time 35 Seconds
                                (without alignments)
                                593.917 Million cell updates/sec

Title:           US-09-220-617B-217
Perfect score:   839
Sequence:        1 MAVGKFLLGSLLLLSLQLGQ.........DRHRWQRLPQLSAAACGCGG 156

Scoring table:   BLOSUM62
                 Gapop 10.0 , Gapext 0.5

Searched:        908470 seqs, 133250620 residues
Total number of hits satisfying chosen parameters:   908470

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
                 Maximum Match 100%
                 Listing first 45 summaries

Database :       A_Geneseq_101002:*
         1:  /SIDS2/gcgdata/geneseq/geneseqp-embl/AA1980.DAT:*
         2:  /SIDS2/gcgdata/geneseq/geneseqp-embl/AA1981.DAT:*
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Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	839	100.0	156	20	AAY16727	Human pre-pro pers
2	839	100.0	156	21	AAY92038	Human glial cell d
3	554.5	66.1	183	22	AAB90563	Human secreted pro
4	554.5	66.1	183	23	ABG65476	Human albumin fusi
5	530	63.2	156	20	AAY16724	Rat mature perseph
6	529	63.1	96	20	AAY16731	Human persephin pr
7	513	61.1	141	22	ABG17121	Novel human diagno
8	511	60.9	156	20	AAY16721	Murine pre-pro per
9	504	60.1	91	20	AAY16732	WO9914235 Seq ID N
10	492	58.6	89	20	AAY16733	Human persephin pr
11	492	58.6	89	22	AAB60964	Human persephin.
12	492	58.6	89	22	AAU03924	Human substituted
13	490	58.4	96	22	AAU03951	Human PAP-F2ac ful
14	471.5	56.2	97	22	AAU03950	Human PNP-F2ac ful
15	460.5	54.9	97	22	AAU03949	Human PGP-F2ac ful
16	453	54.0	89	22	AAU03948	Human PAP-F2ac pol
17	452	53.9	185	18	AAW26680	Mature mouse perse
18	452	53.8	185	20	AAY16692	WO9914235 Seq ID N
19	451	53.8	134	18	AAW30067	Mouse persephin.
20	451	53.8	134	20	AAY16663	WO9914235 Seq ID N
21	451	53.3	142	20	AAY16681	WO9914235 Seq ID N
22	447	53.3	185	18	AAW26681	Mature rat perseph
23	447	53.3	185	20	AAY16694	WO9914235 Seq ID N
24	439	52.3	96	18	AAW30066	Mature mouse perse
25	439	52.3	96	20	AAY16723	Mouse mature perse
26	439	51.8	96	20	AAY16662	WO9914235 Seq ID N
27	439	52.3	96	22	AAU03955	Mouse persephin po
28	434.5	51.8	90	20	AAY16668	Human PNP-F2ac pol
29	433	51.6	96	20	AAY16726	WO9914235 Seq ID N
30	430	51.3	110	22	AAU04453	Murine mutant P-hf
31	425	50.7	91	20	AAY16668	WO9914235 Seq ID N
32	423.5	50.5	90	22	AAU03946	Human PGP-F2ac pol
33	423	50.4	91	18	AAW30068	Mature rat perseph
34	423	50.4	91	20	AAY16665	Rat persephin prot
35	413	49.2	89	18	AAW30064	Mature mouse perse
36	413	49.2	89	20	AAY16661	Murine persephin s
37	413	49.0	89	22	AAU03925	Murine substituted
38	411	49.0	89	18	AAW30065	Mature rat perseph
39	411	49.0	89	20	AAY16664	Rat persephin prot
40	411	49.0	89	22	AAU03926	Rat substituted pe
41	393	46.8	108	22	AAU03938	Murine His-FLAG-PA
42	388	46.2	89	22	AAU03939	Murine PAP-F2ac po
43	379.5	45.2	109	22	AAU03936	Murine His-FLAG-PN
44	374.5	44.6	90	22	AAU03937	Murine PNP-F2ac po
45	364.5	43.4	109	22	AAU03934	Murine His-FLAG-PG

ALIGNMENTS

```
RESULT 1
AAY16727
ID   AAY16727 standard; Peptide; 156 AA.
XX
AC   AAY16727;
XX
DT   17-AUG-1999  (first entry)
XX
DE   Human pre-pro persephin.
XX
KW   Growth factor; GF; persephin; neuron growth; cellular degeneration;
KW   peripheral neuropathy; amyotrophic lateral sclerosis; ischemic stroke;
KW   Alzheimer's disease; Parkinson's disease; Huntington's disease; trauma;
KW   brain injury; spinal cord injury; nervous system tumour; infection;
KW   multiple sclerosis; cardiac muscle degeneration; injury;neurotoxin;
KW   metabolic disease; diabetes; renal dysfunction; neurturin.
XX
OS   Homo sapiens.
XX
PN   WO9914235-A1.
XX
PD   25-MAR-1999.
XX
PF   15-SEP-1998;  98WO-US19163.
XX
PR   16-SEP-1997;  97US-0931858.
XX
PA   (UNIW ) UNIV WASHINGTON.
XX
PI   Desauvage F, Johnson EM, Klein R, Kotzbauer PT;
PI   Lampe PA, Milbrandt JD;
XX
DR   WPI; 1999-244023/20.
```

1

```
DR   N-PSDB: AAX60507.
XX
PT   New isolated persephin growth factor nucleic acids used to, e.g.
PT   promote neuronal growth
XX
PS   Claim 5a; Page 204; 222pp; English.
XX
CC   The invention relates to a novel isolated and purified growth factor (GF)
CC   that comprises persephin or a fragment or a conservatively substituted
CC   variant. The persephin GF polypeptides can promote the survival and
CC   growth of neurons and non-neuronal cells. The persephin GF polypeptides
CC   or polynucleotides can be used for preventing or treating cellular
CC   degeneration or insufficiency, e.g. neuronal degeneration resulting from
CC   peripheral neuropathy, amyotrophic lateral sclerosis, Alzheimer's
CC   disease, Parkinson's disease, Huntington's disease, ischemic stroke,
CC   acute brain injury, acute spinal cord injury, nervous system tumours,
CC   multiple sclerosis, or infection, hematopoietic cell degeneration or
CC   insufficiency resulting from eosinopenia, anemias, thrombocytopenia, or
CC   stem-cell insufficiencies, cardiac muscle degeneration or insufficiency
CC   resulting from cardiomyopathy or congestive heart failure. They can also
CC   be used for treating e.g. peripheral nerve trauma or injury, exposure to
CC   neurotoxins, metabolic diseases such as diabetes or renal dysfunctions
CC   and damage caused by infectious agents. The GF can also be used for
CC   promoting the growth and/or differentiation of a cell in a culture
CC   medium. The antisense polynucleotides can be used for treating a disease
CC   condition mediated by expression of persephin by a population of cells.
CC   The products can also be used for detection and diagnosis.
XX
SQ   Sequence   156 AA;

Query Match             100.0%;  Score 839;  DB 20;  Length 156;
Best Local Similarity   100.0%;  Pred. No. 1.3e-81;
Matches  156;  Conservative   0;  Mismatches   0;  Indels   0;  Gaps   0;

Qy          1 MAVGKFLLGSLLLLSLQLGQGWGPDARGVPVADGEFSSEQVAKAGGTWLGTHRPLARLRR 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MAVGKFLLGSLLLLSLQLGQGWGPDARGVPVADGEFSSEQVAKAGGTWLGTHRPLARLRR 60

Qy         61 ALSGPCQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQGQGRAHG 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 ALSGPCQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQGQGRAHG 120

Qy        121 GPCCRPTRYTDVAFLDDRHRWQRLPQLSAAACGCGG 156
              |||||||||||||||||||||||||||||||||||
Db        121 GPCCRPTRYTDVAFLDDRHRWQRLPQLSAAACGCGG 156

RESULT 2
AAY92038
AC   AAY92038;
XX
DT   19-JUL-2000  (first entry)
XX
DE   Human glial cell derived factor (GDNF), Persephin subunit.
XX
KW   human glial cell derived factor; GDNF; Persephin; CKGF; mutant;
KW   cystine knot growth factor; hairpin loop; infertility.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Misc-difference 1.69
FT                   /note= "optionally mutated to increase electrostatic
FT                   interaction between beta hairpin structure and
FT                   a receptor"
FT                   /note= "mutant optionally comprises one or more
FT                   substitutions in these residues"
FT   Domain          70..89
FT                   /label= beta_hairpin_loop_1
FT   Misc-difference 90..127
FT                   /note= "optionally mutated to increase electrostatic
FT                   interaction between beta hairpin structure and
FT                   a receptor"
FT   Domain          128..148
FT                   /label= beta_hairpin_loop_3
FT                   /note= "mutant optionally comprises one or more
FT                   substitutions in these residues"
FT   Misc-difference 149..156
FT                   /note= "optionally mutated to increase electrostatic
FT                   interaction between beta hairpin structure and
FT                   a receptor"
XX
PN   WO200017360-A1.
XX
PD   30-MAR-2000.
XX
PF   19-MAR-1999;   99WO-US05908.
XX
PR   22-SEP-1998;   98WO-US19772.
XX
PA   (UYMA-) UNIV MARYLAND BALTIMORE.
XX
PI   Weintraub BD,  Szkudlinski MW;
XX
DR   WPI; 2000-283585/24.
XX
PT   New mutant cystine knot growth factor proteins comprising one or more
PT   mutant subunits, useful for treating or preventing diseases e.g.
PT   hypothyroidism and thyroid cancer
XX
PS   Claim 609; Page 314; 320pp; English.
XX
CC   This is the wild type human glial cell derived factor (GDNF), persephin
CC   subunit.
CC   Mutants comprise at least one electrostatic charge altering mutation in a
CC   beta hairpin loop, resulting in increased bioactivity.
CC   Mutant cystine knot growth factor (CKGF) proteins comprising one or more
CC   mutant subunits and having novel properties or improved pharmacological
CC   properties, compared to wild type CKGFs, are claimed.  The CKGF
CC   superfamily, comprises at least four families of growth factors: the
CC   glycoprotein hormones, the platelet-derived growth factor (PDGF) family,
CC   the neurotrophins and the transforming growth factor-beta family; the
CC   families are known to be structurally similar (especially comprising the
CC   cystine knot topology) and it was shown that mutations at certain
CC   positions in the CKGF hairpin loops of family members and other members
CC   of the CKGF superfamily could significantly alter the biological
CC   activities of the CKGF.
CC   Mutant transforming growth factor family proteins or analogues are useful
CC   for treatment of ovulatory dysfunction, luteal phase defect, unexplained
CC   infertility, time-limited conception and in assisted reproduction.
XX
SQ   Sequence   156 AA;

Query Match             100.0%;  Score 839;  DB 21;  Length 156;
Best Local Similarity   100.0%;  Pred. No. 1.3e-81;
Matches  156;  Conservative   0;  Mismatches   0;  Indels   0;  Gaps   0;

Qy          1 MAVGKFLLGSLLLLSLQLGQGWGPDARGVPVADGEFSSEQVAKAGGTWLGTHRPLARLRR 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MAVGKFLLGSLLLLSLQLGQGWGPDARGVPVADGEFSSEQVAKAGGTWLGTHRPLARLRR 60

Qy         61 ALSGPCQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQGQGRAHG 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 ALSGPCQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQGQGRAHG 120

Qy        121 GPCCRPTRYTDVAFLDDRHRWQRLPQLSAAACGCGG 156
              |||||||||||||||||||||||||||||||||||
Db        121 GPCCRPTRYTDVAFLDDRHRWQRLPQLSAAACGCGG 156

RESULT 3
AAB90563
ID   AAB90563 standard; Protein: 183 AA.
XX
```

```
AC   AAB90563;
XX
DT   01-JUN-2001 (first entry)
XX
DE   Human secreted protein, SEQ ID NO: 101.
XX
KW   Human; secreted protein; immunomodulatory; antisclerotic;
KW   dermatological; antiinflammatory; anti-HIV; cytostatic; cardiant;
KW   vascular; anti-angiogenic; ophthalmological; neuroprotectant;
KW   nootropic; anticonvulsant; antialzheimers; antiparkinsonian;
KW   antimicrobial; vulnerary; vaccine; gene therapy; cancer;
KW   protein coordinate data; infection.
XX
OS   Homo sapiens.
XX
PN   WO200121658-A1.
PD   29-MAR-2001.
XX
PR   22-SEP-2000; 2000WO-US26013.
XX
PR   24-SEP-1999; 99US-0155709.
XX
PA   (HUMA-) HUMAN GENOME SCI INC.
XX
PI   Ni J, Baker KP, Birse CE, Ebner R, Fiscella M, Komatsoulis GA;
PI   Lafleur DW, Moore PA, Olsen HS, Rosen CA, Ruben SA, Soppet DR;
PI   Young PE, Wei P, Florence KA;
XX
DR   WPI; 2001-235311/24.
DR   N-PSDB; AAF97903.
XX
PT   Nucleic acids encoding 32 human secreted polypeptides, useful for
PT   preventing, diagnosing and/or treating e.g. cancers, Parkinson's
PT   disease and diabetic retinopathy -
XX
PS   Claim 11; Page 787; 890pp; English.
XX
CC   The present sequence is one of 32 novel human secreted polypeptides. The
CC   nucleic acid molecules and polypeptides may be used in the prevention,
CC   diagnosis and treatment of diseases such as immune disorders (e.g.
CC   multiple sclerosis, systemic lupus erythematosus and human
CC   immuno-deficiency virus (HIV) infections), hyperproliferative disorders
CC   (e.g. cancers and Gaucher's disease), cardiovascular diseases
CC   (e.g. Scimitar syndrome, Chaga's cardiomyopathy and coronary
CC   arteriosclerosis), angiogenic disorders (e.g. corneal graft
CC   neovascularisation and diabetic retinopathy), neurological disorders
CC   (e.g. Huntington's chorea, Alzheimer's disease and Parkinson's disease),
CC   infectious diseases and/or for promoting wound healing, regeneration
CC   and/or chemotaxis. The nucleic acid molecules may be used to produce the
CC   secreted polypeptides. They may also be used as DNA probes in diagnostic
CC   assays to detect and quantitate the presence of similar nucleic acid
CC   sequences in samples. The polypeptides may be used as antigens in the
CC   production of antibodies and in assays to identify modulators of
CC   their expression and activity.
XX
SQ   Sequence 183 AA;

Query Match       66.1%;  Score 554.5;  DB 22;  Length 183;
Best Local Similarity  63.4%;  Pred. No. 4e-51;
Matches 118;  Conservative 5;  Mismatches 30;  Indels 33;  Gaps 5;

Qy    1 MAVGKFLLGSLLLLSLQLGQGWGPDARGVPVADGEFSSEQVAKAGGTWLGTH----RPLA 56
         |||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1 MAVGKFLLGSLLLLSLQLGQGWGPDARGVPVADGEFSSEQVAKAGGTWLGKDFQGPSVTS 60

Qy   57 RLRRALS----------GPCQLWSL------TLSVAELGLGYASEEKVIF 90
         :| :||          :||:  | ||  |  ||
Db   61 QLSPALTLLTVSALPSHRHPPPPCPXAPSPVWSMPAVEPDPVRGRARPGLRLIGE--VIF 118

Qy   91 RYCAGSCPRGARTQHGLALARLQGQGRAHGGPCCRPTRYTDVAFLDDRHRWQRLPQLSAA 150
         |||||||||||||||||||||||||||||||||||||||||||||||
Db  119 RYCAGSCPRGARTQHGLALARLQGQGRXHGGPCCRPTRYTDVAFLDDRHAGSGCPS-SRR 177

Qy  151 ACGGCG 156
         |||||
Db  178 LCGCGG 183


RESULT 4
ABG65476
ID   ABG65476 standard; Protein; 183 AA.
XX
AC   ABG65476;
XX
DT   27-AUG-2002 (first entry)
XX
DE   Human albumin fusion protein #2151.
XX
KW   Albumin fusion protein; therapeutic protein X; human albumin; HA;
KW   human serum albumin; HSA; cancer; reproductive disorder;
KW   digestive disorder; immune disorder; endocrine disorder;
KW   haematopoietic disorder; neural disorder; connective disorder;
KW   cytostatic; antiinfertility; antiinflammatory; antiulcer;
KW   immunomodulator; anti-HIV; antidiabetic; haemostatic; nootropic;
KW   neuroprotective; antiparkinsonian; antimicrobial; neuroleptic;
KW   osteopathic; antiarthritic.
XX
OS   Homo sapiens.
OS   Synthetic.
XX
PN   WO200177137-A1.
PD   18-OCT-2001.
XX
PF   12-APR-2001; 2001WO-US11988.
XX
PR   12-APR-2000; 2000US-229358P.
PR   25-APR-2000; 2000US-199384P.
PR   21-DEC-2000; 2000US-256931P.
XX
PA   (HUMA-) HUMAN GENOME SCI INC.
XX
PI   Rosen CA, Haseltine WA;
XX
DR   WPI; 2002-010886/01.
XX
PT   New fusion protein for treating disease e.g. diabetes comprises an
PT   albumin fused to a therapeutic protein -
XX
PS   Claim 1; Page 2049; 2102pp; English.
XX
CC   The present invention relates to albumin fusion proteins comprising a
CC   therapeutic protein X and human albumin (HA, also known as human serum
CC   albumin, HSA). The proteins are useful for treating a disease or
CC   disorder that may be modulated by therapeutic protein X. The albumin
CC   extends the shelf-life of protein X, and may increase its biological
CC   in vitro/in vivo activity. The protein is useful for treating and
CC   diagnosing disorders such as cancer, reproductive disorders, digestive
CC   disorders (e.g. Crohn's disease, ulcerative colitis), immune disorders
CC   (e.g. acquired immunodeficiency syndrome, AIDS), endocrine disorders
CC   (e.g. diabetes), haematopoietic disorders, neural disorders
CC   (e.g. Alzheimer's, Parkinson's, Creutzfeldt-Jacob disease,
CC   encephalomyelitis, meningitis, schizophrenia), and connective disorders
CC   (e.g. osteoporosis, arthritis). ABG63326-ABG65518 represent albumin
CC   fusion proteins of the invention.
XX
SQ   Sequence 183 AA;

Query Match       66.1%;  Score 554.5;  DB 23;  Length 183;
Best Local Similarity  63.4%;  Pred. No. 4e-51;
Matches 118;  Conservative 5;  Mismatches 30;  Indels 33;  Gaps 5;

Qy    1 MAVGKFLLGSLLLLSLQLGQGWGPDARGVPVADGEFSSEQVAKAGGTWLGTH----RPLA 56
         |||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1 MAVGKFLLGSLLLLSLQLGQGWGPDARGVPVADGEFSSEQVAKAGGTWLGKDFQGPSVTS 60
```

```
Qy     57 RLRRALS--------------GPCQLWSL------TLSVAELGLGYASEEKVIF 90
          :| :||                      |  :||:
Db     61 QLSPALTLLTVSALPSHRHPPPCPXAPSPVWSMPAVEPPDPVRGRARPGLRLIGE--VIF 118

Qy     91 RYCAGSCPRGARTQHGLALARLQGGGRAHGGPCCRPTRYTDVAFLDDRHRWQRLPQLSAA 150
          ||||||||||||||||||||||||| ||||||||||||||||||||| -|
Db    119 RYCAGSCPRGARTQHGLALARLQGGRXHGGPCCRPTRYTDVAFLDDRHAGSGCPS-SRR 177

Qy    151 ACGCGG 156
          |||||
Db    178 LCGGCGG 183

RESULT 5
AAY16724
ID   AAY16724 standard; Peptide; 156 AA.
XX
AC   AAY16724;
XX
DT   17-AUG-1999  (first entry)
XX
DE   Rat mature persephin protein.
XX
KW   Growth factor; GF; persephin; neuron growth; cellular degeneration;
KW   peripheral neuropathy; amyotrophic lateral sclerosis; ischemic stroke;
KW   Alzheimer's disease; Parkinson's disease; Huntington's disease; trauma;
KW   brain injury; spinal cord injury; nervous system tumour; infection;
KW   multiple sclerosis; cardiac muscle degeneration; injury;neurotoxin;
KW   metabolic disease; diabetes; renal dysfunction; neurturin.
XX
OS   Rattus sp.
XX
XX
PN   WO9914235-A1.
XX
PD   25-MAR-1999.
XX
PF   15-SEP-1998;   98WO-US19163.
XX
PR   16-SEP-1997;   97US-0931858.
XX
PA   (UNIW ) UNIV WASHINGTON.
XX
PI   Desauvage F,   Johnson EM,   Klein R,   Kotzbauer PT;
PI   Lampe PA,   Milbrandt JD;
XX
DR   WPI; 1999-244023/20.
XX
PT   New isolated persephin growth factor nucleic acids used to, e.g.
PT   promote neuronal growth
XX
PS   Claim 5; Page 196-197; 222pp; English.
XX
CC   The invention relates to a novel isolated and purified growth factor (GF)
CC   that comprises persephin or a fragment or a conservatively substituted
CC   variant. The persephin GF polypeptides can promote the survival and
CC   growth of neurons and non-neuronal cells. The persephin GF polypeptides
CC   or polynucleotides can be used for preventing or treating cellular
CC   degeneration or insufficiency, e.g. neuronal degeneration resulting from
CC   peripheral neuropathy, amyotrophic lateral sclerosis, Alzheimer's
CC   disease, Parkinson's disease, Huntington's disease, ischemic stroke,
CC   acute brain injury, acute spinal cord injury, nervous system tumours,
CC   multiple sclerosis, or infection, hematopoietic cell degeneration or
CC   insufficiency resulting from eosinopenia, anemias, thrombocytopenia, or
CC   stem-cell insufficiencies, cardiac muscle degeneration or insufficiency
CC   resulting from cardiomyopathy or congestive heart failure. They can also
CC   be used for treating e.g. peripheral nerve trauma or injury, exposure to
CC   neurotoxins, metabolic diseases such as diabetes or renal dysfunctions
CC   and damage caused by infectious agents. The GF can also be used for
CC   promoting the growth and/or differentiation of a cell in a culture
CC   medium. The antisense polynucleotides can be used for treating a disease
CC   condition mediated by expression of persephin by a population of cells.
CC   The products can also be used for detection and diagnosis.
```

```
XX
SQ   Sequence   156 AA;

Query Match           63.2%;   Score 530;  DB 20;  Length 156;
Best Local Similarity 66.0%;   Pred. No. 1.3e-48;
Matches 105;  Conservative 13;  Mismatches 35;  Indels 6;  Gaps 3;

Qy     1 MAVGKFLGSLLLLSLQLGQGWGPDARGVPVADGEFSSEQVAKAGGTW--LGTHRPLAR 57
         | ||::  ||||||  |:  |  | :: :: ::.|   ::|:|  :: | |
Db     1 MAAGRLRILFLLLLSLHLGLGWVLDLQEAPAAD-ELSSGKMAETGRTWKPHQGNNN--VR 57

Qy    58 LRRALSGPCQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQGGGR 117
         | |||:|||:|| ::||||||||||||||:||||||||||||||:|||||||||||||| ||
Db    58 LPRALPGLCRLWSLTLPVAELGLGYASEEKIIFRYCAGSCPRGARTQHSLVLARLRCQGR 117

Qy   118 AHGGPCCRPTRYTDVAFLDDRHRWQRLPQLSAAACGCGG 156
         ||| ||||||:||||||||||||:|:|::||||||||||||
Db   118 AHGRPCCQPTSYADVTFLDDHHHWQQLPQLSAAACCGCGG 156

RESULT 6
AAY16731
ID   AAY16731 standard; Peptide; 96 AA.
XX
AC   AAY16731;
XX
DT   17-AUG-1999  (first entry)
XX
DE   Human persephin protein.
XX
KW   Growth factor; GF; persephin; neuron growth; cellular degeneration;
KW   peripheral neuropathy; amyotrophic lateral sclerosis; ischemic stroke;
KW   Alzheimer's disease; Parkinson's disease; Huntington's disease; trauma;
KW   brain injury; spinal cord injury; nervous system tumour; infection;
KW   multiple sclerosis; cardiac muscle degeneration; injury;neurotoxin;
KW   metabolic disease; diabetes; renal dysfunction; neurturin.
XX
OS   Homo sapiens.
XX
XX
PN   WO9914235-A1.
XX
PD   25-MAR-1999.
XX
PF   15-SEP-1998;   98WO-US19163.
XX
PR   16-SEP-1997;   97US-0931858.
XX
PA   (UNIW ) UNIV WASHINGTON.
XX
PI   Desauvage F,   Johnson EM,   Klein R,   Kotzbauer PT;
PI   Lampe PA,   Milbrandt JD;
XX
DR   WPI; 1999-244023/20.
XX
PT   New isolated persephin growth factor nucleic acids used to, e.g.
PT   promote neuronal growth
XX
PS   Claim 3; Page 205-206; 222pp; English.
XX
CC   The invention relates to a novel isolated and purified growth factor (GF)
CC   that comprises persephin or a fragment or a conservatively substituted
CC   variant. The persephin GF polypeptides can promote the survival and
CC   growth of neurons and non-neuronal cells. The persephin GF polypeptides
CC   or polynucleotides can be used for preventing or treating cellular
CC   degeneration or insufficiency, e.g. neuronal degeneration resulting from
CC   peripheral neuropathy, amyotrophic lateral sclerosis, Alzheimer's
CC   disease, Parkinson's disease, Huntington's disease, ischemic stroke,
CC   acute brain injury, acute spinal cord injury, nervous system tumours,
CC   multiple sclerosis, or infection, hematopoietic cell degeneration or
CC   insufficiency resulting from eosinopenia, anemias, thrombocytopenia, or
CC   stem-cell insufficiencies, cardiac muscle degeneration or insufficiency
CC   resulting from cardiomyopathy or congestive heart failure. They can also
CC   be used for treating e.g. peripheral nerve trauma or injury, exposure to
```

CC neurotoxins, metabolic diseases such as diabetes or renal dysfunctions
CC and damage caused by infectious agents. The GF can also be used for
CC promoting the growth and/or differentiation of a cell in a culture
CC medium. The antisense polynucleotides can be used for treating a disease
CC condition mediated by expression of persephin by a population of cells.
CC The products can also be used for detection and diagnosis.
XX
SQ Sequence 96 AA;

Query Match 63.1%; Score 529; DB 20; Length 96;
Best Local Similarity 100.0%; Pred. No. 9.4e-49;
Matches 96; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 61 ALSGPCQLWSLITLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQGQGRAHG 120
       ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db 1 ALSGPCQLWSLITLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQGQGRAHG 60

Qy 121 GPCCRPRYTDVAFLDDRHRWQRLPQLSAAACGCGG 156
        |||||||||||||||||||||||||||||||||||
Db 61 GPCCRPRYTDVAFLDDRHRWQRLPQLSAAACGCGG 96

RESULT 7
ABG17121
ID ABG17121 standard; Protein; 141 AA.
XX
AC ABG17121;
XX
DT 18-FEB-2002 (first entry)
XX
DE Novel human diagnostic protein #17112.
XX
KW Human; chromosome mapping; gene mapping; gene therapy; forensic;
KW food supplement; medical imaging; diagnostic; genetic disorder.
XX
OS Homo sapiens.
XX
PN WO200175067-A2.
XX
PD 11-OCT-2001.
XX
PF 30-MAR-2001; 2001WO-US08631.
XX
PR 31-MAR-2000; 2000US-0540217.
PR 23-AUG-2000; 2000US-0649167.
XX
PA (HYSE-) HYSEQ INC.
XX
PI Drmanac RT, Liu C, Tang YT;
XX
DR WPI; 2001-639362/73.
DR N-PSDB; AAS81308.
XX
PT New isolated polynucleotide and encoded polypeptides, useful in
PT diagnostics, forensics, gene mapping, identification of mutations
PT responsible for genetic disorders or other traits and to assess
PT biodiversity -
XX
PS Claim 20; SEQ ID No 47480; 103pp; English.
XX
CC The invention relates to isolated polynucleotide (I) and
CC polypeptide (II) sequences. (I) is useful as hybridisation probes,
CC polymerase chain reaction (PCR) primers, oligomers, and for chromosome
CC and gene mapping, and in recombinant production of (II). The
CC polynucleotides are also used in diagnostics as expressed sequence tags
CC for identifying expressed genes. (I) is useful in gene therapy techniques
CC to restore normal activity of (II) or to treat disease states involving
CC (II). (II) is useful for generating antibodies against it, detecting or
CC quantitating a polypeptide in tissue, as molecular weight markers and as
CC a food supplement. (II) and its binding partners are useful in medical
CC imaging of sites expressing (II). (I) and (II) are useful for treating
CC disorders involving aberrant protein expression or biological activity.
CC The polypeptide and polynucleotide sequences have applications in

CC diagnostics, forensics, gene mapping, identification of mutations
CC responsible for genetic disorders or other traits to assess biodiversity
CC and to produce other types of data and products dependent on DNA and
CC amino acid sequences. ABG00010-ABG30377 represent novel human
CC diagnostic amino acid sequences of the invention.
CC Note:The sequence data for this patent did not appear in the printed
CC specification, but was obtained in electronic format directly from WIPO
CC at ftp.wipo.int/pub/published_pct_sequences.
XX
SQ Sequence 141 AA;

Query Match 61.1%; Score 513; DB 22; Length 141;
Best Local Similarity 98.0%; Pred. No. 7.7e-47;
Matches 97; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Qy 14 LSLQLGQGWGPDARGVPVADGEFSSEQVAKAGGTWLGTHRPLARLRRALSGPCQLWSLTL 73
       | ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db 43 LGLHLGQGWGPDARGVPVADGEFSSEQVAKAGGTWLGTHRPLARLRRALSGPCQLWSLTL 102

Qy 74 SVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARL 112
       |||||||||||||||||||||||||||||||||||||||
Db 103 SVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARL 141

RESULT 8
AAY16721
ID AAY16721 standard; Peptide; 156 AA.
XX
AC AAY16721;
XX
DT 17-AUG-1999 (first entry)
XX
DE Murine pre-pro persephin sequence.
XX
KW Growth factor; GF; persephin; neuron growth; cellular degeneration;
KW peripheral neuropathy; amyotrophic lateral sclerosis; ischemic stroke;
KW Alzheimer's disease; Parkinson's disease; Huntington's disease; trauma;
KW brain injury; spinal cord injury; nervous system tumour; infection;
KW multiple sclerosis; cardiac muscle degeneration; injury;neurotoxin;
KW metabolic disease; diabetes; renal dysfunction; neurturin.
XX
OS Mus sp.
XX
PN WO9914235-A1.
XX
PD 25-MAR-1999.
XX
PF 15-SEP-1998; 98WO-US19163.
XX
PR 16-SEP-1997; 97US-0931858.
XX
PA (UNIW) UNIV WASHINGTON.
XX
PI Desauvage F, Johnson EM, Klein R, Kotzbauer PT;
PI Lampe PA, Milbrandt JD;
XX
DR WPI; 1999-244023/20.
DR N-PSDB; AAX60489.
XX
PT New isolated persephin growth factor nucleic acids used to, e.g.
PT promote neuronal growth
XX
PS Claim 5; Page 192; 222pp; English.
XX
CC The invention relates to a novel isolated and purified growth factor (GF)
CC that comprises persephin or a fragment or a conservatively substituted
CC variant. The persephin GF polypeptides can promote the survival and
CC growth of neurons and non-neuronal cells. The persephin GF polypeptides
CC or polynucleotides can be used for preventing or treating cellular
CC degeneration or insufficiency, e.g. neuronal degeneration resulting from
CC peripheral neuropathy, amyotrophic lateral sclerosis, Alzheimer's
CC disease, Parkinson's disease, Huntington's disease, ischemic stroke,
CC acute brain injury, acute spinal cord injury, nervous system tumours,

CC   multiple sclerosis, or infection, hematopoietic cell degeneration or
CC   insufficiency resulting from eosinopenia, anemias, thrombocytopenia, or
CC   stem-cell insufficiences, cardiac muscle degeneration or insufficiency
CC   resulting from cardiomyopathy or congestive heart failure. They can also
CC   be used for treating e.g. peripheral nerve trauma or injury, exposure to
CC   neurotoxins, metabolic diseases such as diabetes or renal dysfunctions
CC   and damage caused by infectious agents. The GF can also be used for
CC   promoting the growth and/or differentiation of a cell in a culture
CC   medium. The antisense polynucleotides can be used for treating a disease
CC   condition mediated by expression of persephin by a population of cells.
CC   The products can also be used for detection and diagnosis.
XX
SQ   Sequence   156 AA;

Query Match   60.9%; Score 511; DB 20; Length 156;
Best Local Similarity   64.2%; Pred. No. 1.4e-46;
Matches 102; Conservative 16; Mismatches 35; Indels 6; Gaps 3;

Qy   1 MAVGKFLLGSLLLLSLQLGQGWGPDARGVPVADGEFSSEQVAKAGGTWL--GTHRPLAR 57
          |||: : |||||| || || | : : || : :: | ||| | | : : |
Db   1 MAAGRLRILCLLLLSLHPSLGWVLDLQEASVAD-KLSFGKMAETRGTWTPHQGNNH--VR 57

Qy   58 LRRALSGPCQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQGQGR 117
          | :|| | |||||||||||||||||||||||||||||||||||||||| ||||| |||
Db   58 LPRALAGSCRLWSLTLPVAELGLGYASEEKVIFRYCAGSCPQEARTQHSLVLARLRGRGR 117

Qy   118 AHGGPCCRPTRYTDVAFLDDRHRWQRLPQLSAAACGCGG 156
          | :|| : | | ||||||||||| |:||||||||||||
Db   118 AHGRPCCQPTSADVTFLDDQHHWQQLPQLSAAACGCGG 156

RESULT 9
AAY16732
ID   AAY16732 standard; Peptide; 91 AA.
XX
AC   AAY16732;
XX
DT   17-AUG-1999 (first entry)
XX
DE   WO9914235 Seq ID NO: 221.
XX
KW   Growth factor; GF; persephin; neuron growth; cellular degeneration;
KW   peripheral neuropathy; amyotrophic lateral sclerosis; ischemic stroke;
KW   Alzheimer's disease; Parkinson's disease; Huntington's disease; trauma;
KW   brain injury; spinal cord injury; nervous system tumour; infection;
KW   multiple sclerosis; cardiac muscle degeneration; injury;neurotoxin;
KW   metabolic disease; diabetes; renal dysfunction; neurturin.
XX
OS   Unidentified.
XX
PN   WO9914235-A1.
XX
PD   25-MAR-1999.
XX
PF   15-SEP-1998; 98WO-US19163.
XX
PR   16-SEP-1997; 97US-0931858.
XX
PA   (UNIW) UNIV WASHINGTON.
XX
PI   Desauvage F, Johnson EM, Klein R, Kotzbauer PT;
PI   Lampe PA, Milbrandt JD;
XX
DR   WPI; 1999-244023/20.
XX
PT   New isolated persephin growth factor nucleic acids used to, e.g.
PT   promote neuronal growth
XX
PS   Disclosure; Page 206; 222pp; English.
XX
CC   The invention relates to a novel isolated and purified growth factor (GF)
CC   that comprises persephin or a fragment or a conservatively substituted
CC   variant. The persephin GF polypeptides can promote the survival and

CC   growth of neurons and non-neuronal cells. The persephin GF polypeptides
CC   or polynucleotides can be used for preventing or treating cellular
CC   degeneration or insufficiency, e.g. neuronal degeneration resulting from
CC   peripheral neuropathy, amyotrophic lateral sclerosis, Alzheimer's
CC   disease, Parkinson's disease, Huntington's disease, ischemic stroke,
CC   acute brain injury, acute spinal cord injury, nervous system tumours,
CC   multiple sclerosis, or infection, hematopoietic cell degeneration or
CC   insufficiency resulting from eosinopenia, anemias, thrombocytopenia, or
CC   stem-cell insufficiences, cardiac muscle degeneration or insufficiency
CC   resulting from cardiomyopathy or congestive heart failure. They can also
CC   be used for treating e.g. peripheral nerve trauma or injury, exposure to
CC   neurotoxins, metabolic diseases such as diabetes or renal dysfunctions
CC   and damage caused by infectious agents. The GF can also be used for
CC   promoting the growth and/or differentiation of a cell in a culture
CC   medium. The antisense polynucleotides can be used for treating a disease
CC   condition mediated by expression of persephin by a population of cells.
CC   The products can also be used for detection and diagnosis.
XX
SQ   Sequence   91 AA;

Query Match   60.1%; Score 504; DB 20; Length 91;
Best Local Similarity 100.0%; Pred. No. 4.1e-46;
Matches   91; Conservative   0; Mismatches   0; Indels   0; Gaps   0;

Qy   66 CQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQGQGRAHGGPCCR 125
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db   1 CQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQGQGRAHGGPCCR 60

Qy   126 PTRYTDVAFLDDRHRWQRLPQLSAAACGCGG 156
          ||||||||||||||||||||||||||||||
Db   61 PTRYTDVAFLDDRHRWQRLPQLSAAACGCGG 91

RESULT 10
AAY16733
ID   AAY16733 standard; Peptide; 89 AA.
XX
AC   AAY16733;
XX
DT   17-AUG-1999 (first entry)
XX
DE   Human persephin protein.
XX
KW   Growth factor; GF; persephin; neuron growth; cellular degeneration;
KW   peripheral neuropathy; amyotrophic lateral sclerosis; ischemic stroke;
KW   Alzheimer's disease; Parkinson's disease; Huntington's disease; trauma;
KW   brain injury; spinal cord injury; nervous system tumour; infection;
KW   multiple sclerosis; cardiac muscle degeneration; injury;neurotoxin;
KW   metabolic disease; diabetes; renal dysfunction; neurturin.
XX
OS   Homo sapiens.
XX
PN   WO9914235-A1.
XX
PD   25-MAR-1999.
XX
PF   15-SEP-1998; 98WO-US19163.
XX
PR   16-SEP-1997; 97US-0931858.
XX
PA   (UNIW) UNIV WASHINGTON.
XX
PI   Desauvage F, Johnson EM, Klein R, Kotzbauer PT;
PI   Lampe PA, Milbrandt JD;
XX
DR   WPI; 1999-244023/20.
XX
PT   New isolated persephin growth factor nucleic acids used to, e.g.
PT   promote neuronal growth
XX
PS   Claim 2; Page 206-207; 222pp; English.
XX
CC   The invention relates to a novel isolated and purified growth factor (GF)

CC   that comprises persephin or a fragment or a conservatively substituted
CC   variant. The persephin GF polypeptides can promote the survival and
CC   growth of neurons and non-neuronal cells. The persephin GF polypeptides
CC   or polynucleotides can be used for preventing or treating cellular
CC   degeneration or insufficiency, e.g. neuronal degeneration resulting from
CC   peripheral neuropathy, amyotrophic lateral sclerosis, Alzheimer's
CC   disease, Parkinson's disease, Huntington's disease, ischemic stroke,
CC   acute brain injury, acute spinal cord injury, nervous system tumours,
CC   multiple sclerosis, or infection, hematopoietic cell degeneration or
CC   insufficiency resulting from eosinopenia, anemia, thrombocytopenia, or
CC   stem-cell insufficiences, cardiac muscle degeneration or insufficiency
CC   resulting from cardiomyopathy or congestive heart failure. They can also
CC   be used for treating e.g. peripheral nerve trauma or injury, exposure to
CC   neurotoxins, metabolic diseases such as diabetes or renal dysfunctions
CC   and damage caused by infectious agents. The GF can also be used for
CC   promoting the growth and/or differentiation of a cell in a culture
CC   medium. The antisense polynucleotides can be used for treating a disease
CC   condition mediated by expression of persephin by a population of cells.
CC   The products can also be used for detection and diagnosis.
XX
SQ   Sequence 89 AA;

Query Match   58.6%; Score 492; DB 20; Length 89;
Best Local Similarity   100.0%; Pred. No. 7.6e-45;
Matches   89; Conservative   0; Mismatches   0; Indels   0; Gaps   0;

Qy   66 CQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQGQGRAHGGPCCR 125
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db   1 CQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQGQGRAHGGPCCR 60

Qy   126 PTRYTDVAFLDDRHRWQRLPQLSAAACGC 154
              |||||||||||||||||||||||||||||
Db   61 PTRYTDVAFLDDRHRWQRLPQLSAAACGC 89

RESULT 11
AAB60964
ID   AAB60964 standard; Protein; 89 AA.
XX
AC   AAB60964;
XX
DT   10-DEC-2001 (first entry)
XX
DE   Human persephin.
XX
KW   Human; glial cell line-derived growth factor; GDNF; corneal defect;
KW   epidermal healing; wound healing; wound healing disorder; scarring;
KW   gene therapy; neurturin; persephin; artemin.
XX
OS   Homo sapiens.
XX
PN   WO200130375-A2.
XX
PD   03-MAY-2001.
XX
PF   30-OCT-2000; 2000WO-EP10674.
XX
PR   29-OCT-1999; 99EP-0121597.
XX
PA   (BIOP-) BIOPHARM GES BIOTECHNOLOGISCHEN ENTWICKL.
XX
PI   Hanke M, Kruse F, Paulista M, Pohl J;
XX
DR   WPI; 2001-316290/33.
XX
PT   Use of glial cell line-derived growth factor for epidermal and stromal
PT   wound healing, and treating wound healing or scarring disorders,
PT   particularly for treating corneal defects -
XX
PS   Disclosure; Fig 1; 60pp; English.
XX
CC   The present invention describes the use of glial cell line-derived growth
CC   factor (GDNF) or a derivative in the manufacture of pharmaceutical

CC   compositions for epidermal and wound healing, the treatment of epidermal
CC   and stromal wound healing disorders and scarring disorders. In
CC   particular, they are useful for treating corneal defects. Alternatives to
CC   GDNF are neurturin, persephin and artemin. The present sequence is the
CC   human persephin protein.
XX
SQ   Sequence 89 AA;

Query Match   58.6%; Score 492; DB 22; Length 89;
Best Local Similarity   100.0%; Pred. No. 7.6e-45;
Matches   89; Conservative   0; Mismatches   0; Indels   0; Gaps   0;

Qy   66 CQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQGQGRAHGGPCCR 125
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db   1 CQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQGQGRAHGGPCCR 60

Qy   126 PTRYTDVAFLDDRHRWQRLPQLSAAACGC 154
              |||||||||||||||||||||||||||||
Db   61 PTRYTDVAFLDDRHRWQRLPQLSAAACGC 89

RESULT 12
AAU03924
ID   AAU03924 standard; Protein; 89 AA.
XX
AC   AAU03924;
XX
DT   23-OCT-2001 (first entry)
XX
DE   Human substituted persephin polypeptide.
XX
KW   Persephin; F2a; F2c; GDNF; neurturin; artemin; human; mouse; rat; AIDS;
KW   growth factor receptor alpha1-RET protein tyrosine kinase; GFRalpha1-RET;
KW   trophic support; peripheral neuropathy; amyotrophic lateral sclerosis;
KW   Alzheimer's disease; Parkinson's disease; Huntington's disease; diabetes;
KW   acquired immunodeficiency syndrome; ischaemic stroke; nervous system tumour;
KW   acute spinal cord injury; multiple sclerosis; nervous system tumour;
KW   neuroblastoma; enteric disease; idiopathic constipation; eosinopaenia;
KW   basopaenia; lymphopaenia; monocytopaenia; neutropaenia; anaemia;
KW   cardiac muscle degeneration; congestive heart failure; thrombocytopaenia.
XX
OS   Homo sapiens.
XX
PN   WO200147946-A2.
XX
PD   05-JUL-2001.
XX
PF   21-DEC-2000; 2000WO-US34852.
XX
PR   28-DEC-1999; 99US-0473551.
XX
PA   (UNIW) UNIV WASHINGTON.
XX
PI   Milbrandt JD, Baloh RH;
XX
DR   WPI; 2001-425518/45.
XX
PT   New growth factor that activates growth factor receptor alpha1-Ret
PT   protein-tyrosine kinase, for providing trophic support to a mammalian
PT   cell and producing differentiation of a mammalian cell in a patient -
XX
PS   Claim 4; Page 45; 73pp; English.
XX
CC   The sequence represents a human persephin protein, which can have
CC   substituted residues in its F2a and/or F2c regions. The substitutions are
CC   from the F2a and F2c regions of the proteins GDNF, neurturin and artemin,
CC   from humans, mice or rats. This type of protein activates the growth
CC   factor receptor alpha1-Ret protein-tyrosine kinase (GFRalpha1-RET), but
CC   does not substantially activate GFRalpha2-RET or GFRalpha3-RET. The
CC   growth factors and nucleic acids encoding them are useful for providing
CC   trophic support to a mammalian cell and/or for producing differentiation
CC   of a mammalian cell, in a patient suffering from peripheral neuropathy,
CC   amyotrophic lateral sclerosis, Alzheimer's disease, Parkinson's disease,

CC   Huntington's disease, diabetes, acquired immunodeficiency syndrome
CC   (AIDS), ischaemic stroke, acute brain injury, acute spinal cord injury,
CC   multiple sclerosis, nervous system tumours (e.g. neuroblastomas), or
CC   enteric diseases such as idiopathic constipation. The sequences are also
CC   useful for preventing or treating cellular degeneration or insufficiency
CC   in an individual, suffering from eosinopaenia, basopaenia, lymphopaenia,
CC   monocytopaenia, neutropaenia, anaemia, thrombocytopaenia, cardiac muscle
CC   degeneration, or congestive heart failure. The growth factors are also
CC   useful for promoting the survival of peripheral and central neuronal
CC   populations in vivo or in vitro.
XX
SQ   Sequence 89 AA;

Query Match   58.6%; Score 492; DB 22; Length 89;
Best Local Similarity   100.0%; Pred. No. 7.6e-45;
Matches   89; Conservative   0; Mismatches   0; Indels   0; Gaps   0;

Qy   66 CQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQGQGRAHGPGPCCR 125
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db   1 CQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQGQGRAHGPGPCCR 60

Qy   126 PTRYTDVAFLDDRHRWQRLPQLSAAACGC 154
              |||||||||||||||||||||||||||||
Db   61 PTRYTDVAFLDDRHRWQRLPQLSAAACGC 89

RESULT 13
AAU03951
ID   AAU03951 standard; Protein; 96 AA.
XX
AC   AAU03951;
XX
DT   23-OCT-2001 (first entry)
XX
DE   Human PAP-F2ac full-length polypeptide.
XX
KW   Persephin; F2a; F2c; GDNF; neurturin; artemin; human; mouse; rat; AIDS;
KW   growth factor receptor alpha1-RET protein tyrosine kinase; GFRalpha1-RET;
KW   trophic support; peripheral neuropathy; amyotrophic lateral sclerosis;
KW   Alzheimer's disease; Parkinson's disease; Huntington's disease; diabetes;
KW   acquired immunodeficiency syndrome; ischaemic stroke; acute brain injury;
KW   acute spinal cord injury; multiple sclerosis; nervous system tumour;
KW   neuroblastoma; enteric disease; idiopathic constipation; eosinopaenia;
KW   basopaenia; lymphopaenia; monocytopaenia; neutropaenia; anaemia;
KW   cardiac muscle degeneration; congestive heart failure; thrombocytopaenia;
KW   mutant; mutein.
XX
OS   Chimeric - Homo sapiens.
XX
FH   Key   Location/Qualifiers
FT   Region   68..72
FT   /note= "Human artemin F2a region"
FT   Region   82..88
FT   /note= "Human artemin F2c region"
XX
PN   WO20014794G-A2.
XX
PD   05-JUL-2001.
XX
PF   21-DEC-2000; 2000WO-US34852.
XX
PR   28-DEC-1999; 99US-0473551.
XX
PA   (UNIW) UNIV WASHINGTON.
XX
PI   Milbrandt JD, Baloh RH;
XX
DR   WPI; 2001-425618/45.
XX
PT   New growth factor that activates growth factor receptor alpha1-Ret
PT   protein-tyrosine kinase, for providing trophic support to a mammalian
PT   cell and producing differentiation of a mammalian cell in a patient -
XX

Claim 8: Page 48; 73pp; English.

PS
XX
CC   The sequence represents a human persephin full-length protein, whereby
CC   the F2a and F2c regions have amino acid substitutions from the F2a and
CC   F2c regions of artemin protein. Persephin can have substitutions from
CC   the F2a and F2c regions of the proteins GDNF, neurturin and artemin, from
CC   humans, mice or rats. This type of protein activates the growth factor
CC   receptor alpha1-Ret protein-tyrosine kinase (GFRalpha-RET), but does not
CC   substantially activate GFRalpha2-RET or GFRalpha3-RET. The growth factors
CC   and nucleic acids encoding them are useful for providing trophic support
CC   to a mammalian cell and/or for producing differentiation of a mammalian
CC   cell, in a patient suffering from peripheral neuropathy, amyotrophic
CC   lateral sclerosis, Alzheimer's disease, Parkinson's disease, Huntington's
CC   disease, diabetes, acquired immunodeficiency syndrome (AIDS), ischaemic
CC   stroke, acute brain injury, acute spinal cord injury, multiple sclerosis,
CC   nervous system tumours (e.g. neuroblastomas), or enteric diseases such as
CC   idiopathic constipation. The sequences are also useful for preventing or
CC   treating cellular degeneration or insufficiency in an individual,
CC   suffering from eosinopaenia, basopaenia, lymphopaenia, monocytopaenia,
CC   neutropaenia, anaemia, thrombocytopaenia, cardiac muscle degeneration, or
CC   congestive heart failure. The growth factors are also useful for
CC   promoting the survival of peripheral and central neuronal populations in
CC   vivo or in vitro.
XX
SQ   Sequence 96 AA;

Query Match   58.4%; Score 490; DB 22; Length 96;
Best Local Similarity   92.7%; Pred. No. 1.4e-44;
Matches   89; Conservative   3; Mismatches   4; Indels   0; Gaps   0;

Qy   61 ALSGPCQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQGQGRAHG 120
              |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db   1 ALSGPCQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQGQGRAHG 60

Qy   121 GPCCRPTRYTDVAFLDDRHRWQRLPQLSAAACGCGG 156
              |||||||||| :||||||||| : :|||||||||
Db   61 GPCCRPTRYEAVAFLDDRHRWRTVDRLSAAACGCGG 96

RESULT 14
AAU03950
ID   AAU03950 standard; Protein; 97 AA.
XX
AC   AAU03950;
XX
DT   23-OCT-2001 (first entry)
XX
DE   Human PNP-F2ac full-length polypeptide.
XX
KW   Persephin; F2a; F2c; GDNF; neurturin; artemin; human; mouse; rat; AIDS;
KW   growth factor receptor alpha1-RET protein tyrosine kinase; GFRalpha1-RET;
KW   trophic support; peripheral neuropathy; amyotrophic lateral sclerosis;
KW   Alzheimer's disease; Parkinson's disease; Huntington's disease; diabetes;
KW   acquired immunodeficiency syndrome; ischaemic stroke; acute brain injury;
KW   acute spinal cord injury; multiple sclerosis; nervous system tumour;
KW   neuroblastoma; enteric disease; idiopathic constipation; eosinopaenia;
KW   basopaenia; lymphopaenia; monocytopaenia; neutropaenia; anaemia;
KW   cardiac muscle degeneration; congestive heart failure; thrombocytopaenia;
KW   mutant; mutein.
XX
OS   Chimeric - Homo sapiens.
XX
FH   Key   Location/Qualifiers
FT   Region   68..72
FT   /note= "Human neurturin F2a region"
FT   Region   82..88
FT   /note= "Human neurturin F2c region"
XX
PN   WO20014794G-A2.
XX
PD   05-JUL-2001.
XX
PF   21-DEC-2000; 2000WO-US34852.

XX
PR   28-DEC-1999;   99US-0473551.
XX
PA   (UNIW) UNIV WASHINGTON.
XX
PI   Milbrandt JD, Baloh RH;
XX
DR   WPI; 2001-425618/45.
XX
PT   New growth factor that activates growth factor receptor alpha1-Ret
PT   protein-tyrosine kinase, for providing trophic support to a mammalian
PT   cell and producing differentiation of a mammalian cell in a patient -
XX
PS   Claim 8; Page 48; 73pp; English.
XX
CC   The sequence represents a human persephin full-length protein, whereby
CC   the F2a and F2c regions have amino acid substitutions from the F2a and
CC   F2c regions of neurturin protein. Persephin can have substitutions from
CC   the F2a and F2c regions of the proteins GDNF, neurturin and artemin, from
CC   humans, mice or rats. This type of protein activates the growth factor
CC   receptor alpha1-Ret protein-tyrosine kinase (GFRalpha1-RET), but does not
CC   substantially activate GFRalpha2-RET or GFRalpha3-RET. The growth factors
CC   and nucleic acids encoding them are useful for providing trophic support
CC   to a mammalian cell and/or for producing differentiation of a mammalian
CC   cell, in a patient suffering from peripheral neuropathy, amyotrophic
CC   lateral sclerosis, Alzheimer's disease, Parkinson's disease, Huntington's
CC   disease, diabetes, acquired immunodeficiency syndrome (AIDS), ischaemic
CC   stroke, acute brain injury, acute spinal cord injury, multiple sclerosis,
CC   nervous system tumours (e.g. neuroblastomas), or enteric diseases such as
CC   idiopathic constipation. The sequences are also useful for preventing or
CC   treating cellular degeneration or insufficiency in an individual,
CC   suffering from eosinopaenia, basopaenia, lymphopaenia, monocytopaenia,
CC   neutropaenia, anaemia, thrombocytopaenia, cardiac muscle degeneration, or
CC   congestive heart failure. The growth factors are also useful for
CC   promoting the survival of peripheral and central neuronal populations in
CC   vivo or in vitro.
XX
SQ   Sequence   97 AA;

Query Match   56.2%;   Score 471.5; DB 22;   Length 97;
Best Local Similarity   90.7%;   Pred. No. 1.3e-42;
Matches   88;   Conservative   3; Mismatches   5;   Indels   1; Gaps   1;

Qy   61 ALSGPCQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQGQGRAHG 120
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Db   1 ALSGPCQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQGQGRAHG 60

Qy   121 GPCCRPTRYTD-VAFLDDRHRWQRLPQLSAAACGCGG 156
              |||||| | | |||||||||| : :|||||||||
Db   61 GPCCRPTAYEDEVAFLDDRHRYHTVHELSAAACGCGG 97

RESULT 15
AAU03949
ID   AAU03949 standard; Protein; 97 AA.
XX
AC   AAU03949;
XX
DT   23-OCT-2001 (first entry)
XX
DE   Human PGP-F2ac full-length polypeptide.
XX
KW   Persephin; F2a; F2c; GDNF; neurturin; artemin; human; mouse; rat; AIDS;
KW   growth factor receptor alpha1-RET protein tyrosine kinase; GFRalpha1-RET;
KW   trophic support; peripheral neuropathy; amyotrophic lateral sclerosis;
KW   Alzheimer's disease; Parkinson's disease; Huntington's disease; diabetes;
KW   acquired immunodeficiency syndrome; ischaemic stroke; acute brain injury;
KW   acute spinal cord injury; multiple sclerosis; nervous system tumour;
KW   neuroblastoma; enteric disease; idiopathic constipation; eosinopaenia;
KW   basopaenia; lymphopaenia; monocytopaenia; neutropaenia; anaemia;
KW   cardiac muscle degeneration; congestive heart failure; thrombocytopaenia;
KW   mutant; mutein.
XX

OS   Chimeric - Homo sapiens.
XX
FH   Key   Location/Qualifiers
FT   Region   68..72
FT   /note= "Human GDNF F2a region"
FT   Region   82..88
FT   /note= "Human GDNF F2c region"
XX
PN   WO20014794⁶-A2.
XX
PD   05-JUL-2001.
XX
PF   21-DEC-2000; 2000WO-US34852.
XX
PR   28-DEC-1999;   99US-0473551.
XX
PA   (UNIW) UNIV WASHINGTON.
XX
PI   Milbrandt JD, Baloh RH;
XX
DR   WPI; 2001-425618/45.
XX
PT   New growth factor that activates growth factor receptor alpha1-Ret
PT   protein-tyrosine kinase, for providing trophic support to a mammalian
PT   cell and producing differentiation of a mammalian cell in a patient -
XX
PS   Claim 8; Page 48; 73pp; English.
XX
CC   The sequence represents a human persephin full-length protein, whereby
CC   the F2a and F2c regions have amino acid substitutions from the F2a and
CC   F2c regions of GDNF protein. Persephin can have substitutions from the
CC   F2a and F2c regions of the proteins GDNF, neurturin and artemin, from
CC   humans, mice or rats. This type of protein activates the growth factor
CC   receptor alpha1-Ret protein-tyrosine kinase (GFRalpha1-RET), but does not
CC   substantially activate GFRalpha2-RET or GFRalpha3-RET. The growth factors
CC   and nucleic acids encoding them are useful for providing trophic support
CC   to a mammalian cell and/or for producing differentiation of a mammalian
CC   cell, in a patient suffering from peripheral neuropathy, amyotrophic
CC   lateral sclerosis, Alzheimer's disease, Parkinson's disease, Huntington's
CC   disease, diabetes, acquired immunodeficiency syndrome (AIDS), ischaemic
CC   stroke, acute brain injury, acute spinal cord injury, multiple sclerosis,
CC   nervous system tumours (e.g. neuroblastomas), or enteric diseases such as
CC   idiopathic constipation. The sequences are also useful for preventing or
CC   treating cellular degeneration or insufficiency in an individual,
CC   suffering from eosinopaenia, basopaenia, lymphopaenia, monocytopaenia,
CC   neutropaenia, anaemia, thrombocytopaenia, cardiac muscle degeneration, or
CC   congestive heart failure. The growth factors are also useful for
CC   promoting the survival of peripheral and central neuronal populations in
CC   vivo or in vitro.
XX
SQ   Sequence   97 AA;

Query Match   54.9%;   Score 460.5; DB 22;   Length 97;
Best Local Similarity   89.7%;   Pred. No. 2e-41;
Matches   87;   Conservative   6; Mismatches   3;   Indels   1; Gaps   1;

Qy   61 ALSGPCQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQGQGRAHG 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db   1 ALSGPCQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQGQGRAHG 60

Qy   121 GPCCRPTRY-TDVAFLDDRHRWQRLPQLSAAACGCGG 156
              ||||||| : |||||||||| : : |||||||||
Db   61 GPCCRPTAFDDDVAFLDDRHRYHILRKHSAAACGCGG 97

Search completed: July 11, 2003, 12:46:44
Job time : 36 secs

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GenCore version 5.1.6
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OM_protein - protein search, using sw model

Run on: July 11, 2003, 12:46:08 ; Search time 14 Seconds
                                     (without alignments)
                                     327.855 Million cell updates/sec

Title: US-09-220-617B-217
Perfect score: 839
Sequence: 1 MAVGKFLLGSLLLLSLQLGQ..........DRHRWQRLPQLSAAACCGCG 156

Scoring table: BLOSUM62
               Gapop 10.0 , Gapext 0.5

Searched: 262574 seqs, 29422922 residues

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
                 Maximum Match 100%
                 Listing first 45 summaries

Database :   Issued_Patents_AA:*
               1 : /cgn2_6/ptodata/1/iaa/5A_COMB.pep:*
               2 : /cgn2_6/ptodata/1/iaa/5B_COMB.pep:*
               3 : /cgn2_6/ptodata/1/iaa/6A_COMB.pep:*
               4 : /cgn2_6/ptodata/1/iaa/6B_COMB.pep:*
               5 : /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
               6 : /cgn2_6/ptodata/1/iaa/backfiles1.pep:*

                    SUMMARIES

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

Result No.	Score	% Match	Query Length	DB	ID	Description
1	839	100.0	156	4	US-08-931-858E-217	Sequence 217, App
2	724	86.3	133	4	US-08-931-858E-132	Sequence 132, App
3	530	63.2	156	4	US-08-931-858E-196	Sequence 196, App
4	529	63.1	96	4	US-08-931-858E-221	Sequence 221, App
5	529	63.1	156	4	US-09-220-528-15	Sequence 15, Appl
6	511	60.9	156	4	US-08-931-858E-185	Sequence 185, App
7	492	58.6	89	4	US-08-931-858E-223	Sequence 223, App
8	492	58.6	89	4	US-09-220-528-18	Sequence 18, Appl
9	452	53.9	185	4	US-08-981-739-133	Sequence 133, App
10	452	53.9	133	4	US-09-128-026-133	Sequence 133, App
11	451	53.8	134	4	US-08-981-739-81	Sequence 81, Appl
12	451	53.8	134	4	US-09-128-026-81	Sequence 81, Appl
13	451	53.8	142	4	US-08-931-858E-111	Sequence 111, App
14	451	53.8	142	4	US-08-981-739-111	Sequence 111, App
15	447	53.3	142	4	US-09-128-026-111	Sequence 111, App
16	447	53.3	185	4	US-08-981-739-136	Sequence 136, App
17	447	53.3	185	4	US-09-128-026-136	Sequence 136, App
18	439	52.3	96	4	US-08-931-858E-80	Sequence 80, Appl
19	439	52.3	96	4	US-08-981-739-187	Sequence 187, App
20	439	52.3	96	4	US-09-128-026-80	Sequence 80, Appl
21	433	51.6	96	4	US-08-981-739-80	Sequence 80, Appl
22	433	51.6	96	4	US-08-931-858E-198	Sequence 198, App
23	425	50.7	91	4	US-08-931-858E-89	Sequence 89, Appl
24	425	50.7	91	4	US-08-981-739-89	Sequence 89, Appl
25	425	50.7	91	4	US-09-128-026-89	Sequence 89, Appl
26	423	50.4	91	4	US-08-931-858E-83	Sequence 83, Appl
27	423	50.4	91	4	US-08-981-739-83	Sequence 83, Appl
28	423	50.4	91	4	US-09-128-026-83	Sequence 83, Appl
29	413	49.2	89	4	US-08-931-858E-79	Sequence 79, Appl
30	413	49.2	89	4	US-08-981-739-79	Sequence 79, Appl
31	413	49.2	89	4	US-09-128-026-79	Sequence 79, Appl
32	411	49.0	89	4	US-08-931-858E-82	Sequence 82, Appl
33	411	49.0	89	4	US-08-981-739-82	Sequence 82, Appl
34	411	49.0	89	4	US-09-128-026-82	Sequence 82, Appl
35	363.5	43.3	96	4	US-08-931-858E-141	Sequence 141, App
36	363.5	43.3	96	4	US-08-981-739-141	Sequence 141, App
37	363.5	43.3	96	4	US-09-128-026-141	Sequence 141, App
38	338	40.3	73	4	US-08-931-858E-106	Sequence 106, App
39	310	36.9	60	4	US-08-931-858E-218	Sequence 218, App
40	292	34.8	100	4	US-08-931-858E-146	Sequence 146, App
41	292	34.8	100	4	US-08-981-739-146	Sequence 146, App
42	292	34.8	100	4	US-09-128-026-146	Sequence 146, App
43	244	29.1	140	4	US-09-220-528-5	Sequence 5, Appl
44	244	29.1	159	4	US-09-220-528-12	Sequence 12, Appl
45	244	29.1	159	4	US-09-220-528-89	Sequence 89, Appl

                        ALIGNMENTS

RESULT 1
US-08-931-858E-217
; Sequence 217, Application US/08931858E
; Patent No. 6222022
; GENERAL INFORMATION:
; APPLICANT: JOHNSON, EUGENE M
; APPLICANT: MILBRANDT, JEFFREY D
; APPLICANT: KOTZBAUER, PAUL T
; APPLICANT: LAMPE, PATRICIA A
; APPLICANT: KLEIN, ROBERT
; APPLICANT: DESAUVAGE, FRED
; TITLE OF INVENTION: PERSEPHIN AND RELATED GROWTH FACTOR
; NUMBER OF SEQUENCES: 239
; CORRESPONDENCE ADDRESS:
;   ADDRESSEE: HOWELL & HAFERKAMP, L.C.
;   STREET: 7733 FORSYTH BOULEVARD, SUITE 1400
;   CITY: ST. LOUIS
;   STATE: MO
;   COUNTRY: USA
;   ZIP: 63105
; COMPUTER READABLE FORM:
;   MEDIUM TYPE: Floppy disk
;   COMPUTER: IBM PC compatible
;   OPERATING SYSTEM: PC-DOS/MS-DOS
;   SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
;   APPLICATION NUMBER: US/08/931,858E
;   FILING DATE:
;   CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
;   NAME: HOLLAND, DONALD R.
;   REGISTRATION NUMBER: 35,197
;   REFERENCE/DOCKET NUMBER: 971486
; TELECOMMUNICATION INFORMATION:
;   TELEPHONE: 314-727-5188
;   TELEFAX: 314-727-6092
; INFORMATION FOR SEQ ID NO: 217:
;   SEQUENCE CHARACTERISTICS:
;   LENGTH: 156 amino acids
;   TYPE: amino acid
;   STRANDEDNESS:
;   TOPOLOGY: linear
;   MOLECULE TYPE: peptide
US-08-931-858E-217

Query Match   100.0%; Score 839; DB 4; Length 156;
Best Local Similarity   100.0%; Pred. No. 4e-88;
Matches 156; Conservative   0; Mismatches   0; Indels   0; Gaps   0;

Qy   1 MAVGKFLLGSLLLLSLQLGQGWGPDARGVPVADGEFSSEQVAKAGGTWLGTHRPLARLRR 60

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Db       ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
         1 MAVGKFLLGSLLLLSLQLGQGWGPDARGVPVADGEFSSEQVAKAGGTWLGTHRPLARLRR 60

Qy      61 ALSGPCQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQGQGRAHG 120
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      61 ALSGPCQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQGQGRAHG 120

Qy     121 GPCCRPTRYTDVAFLDDRHRWQRLPQLSAAACGCGG 156
           |||||||||||||||||||||||||||||||||||
Db     121 GPCCRPTRYTDVAFLDDRHRWQRLPQLSAAACGCGG 156
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RESULT 2
US-08-931-858E-132
; Sequence 132, Application US/08931858E
; Patent No. 6222022
; GENERAL INFORMATION:
;   APPLICANT: JOHNSON, EUGENE M
;   APPLICANT: MILBRANDT, JEFFREY D
;   APPLICANT: KOTZBAUER, PAUL T
;   APPLICANT: LAMPE, PATRICIA A
;   APPLICANT: KLEIN, ROBERT
;   APPLICANT: DESAUVAGE, FRED
;   TITLE OF INVENTION: PERSEPHIN AND RELATED GROWTH FACTOR
;   NUMBER OF SEQUENCES: 239
;   CORRESPONDENCE ADDRESS:
;   ADDRESSEE: HOWELL & HAFERKAMP, L.C.
;   STREET: 7733 FORSYTH BOULEVARD, SUITE 1400
;   CITY: ST. LOUIS
;   STATE: MO
;   COUNTRY: USA
;   ZIP: 63105
;   COMPUTER READABLE FORM:
;   MEDIUM TYPE: Floppy disk
;   COMPUTER: IBM PC compatible
;   OPERATING SYSTEM: PC-DOS/MS-DOS
;   SOFTWARE: PatentIn Release #1.0, Version #1.30
;   CURRENT APPLICATION DATA:
;   APPLICATION NUMBER: US/08/931,858E
;   FILING DATE:
;   CLASSIFICATION: 435
;   ATTORNEY/AGENT INFORMATION:
;   NAME: HOLLAND, DONALD R.
;   REGISTRATION NUMBER: 35,197
;   REFERENCE/DOCKET NUMBER: 971486
;   TELECOMMUNICATION INFORMATION:
;   TELEPHONE: 314-727-5188
;   TELEFAX: 314-727-6092
; INFORMATION FOR SEQ ID NO: 132:
;   SEQUENCE CHARACTERISTICS:
;   LENGTH: 133 amino acids
;   TYPE: amino acid
;   STRANDEDNESS:
;   TOPOLOGY: linear
;   MOLECULE TYPE: peptide
US-08-931-858E-132

Query Match   86.3%; Score 724; DB 4; Length 133;
Best Local Similarity 100.0%; Pred. No. 4.2e-75;
Matches 133;   Conservative   0; Mismatches 0; Indels 0; Gaps 0;

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Qy      24 PDARGVPVADGEFSSEQVAKAGGTWLGTHRPLARLRRALSGPCQLWSLTLSVAELGLGYA 83
           |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       1 PDARGVPVADGEFSSEQVAKAGGTWLGTHRPLARLRRALSGPCQLWSLTLSVAELGLGYA 60

Qy      84 SEEKVIFRYCAGSCPRGARTQHGLALARLQGQGRAHGGPCCRPTRYTDVAFLDDRHRWQR 143
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Db      61 SEEKVIFRYCAGSCPRGARTQHGLALARLQGQGRAHGGPCCRPTRYTDVAFLDDRHRWQR 120

Qy     144 LPQLSAAACGCGG 156
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Db     121 LPQLSAAACGCGG 133
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RESULT 3
US-08-931-858E-196
; Sequence 196, Application US/08931858E
; Patent No. 6222022
; GENERAL INFORMATION:
;   APPLICANT: JOHNSON, EUGENE M
;   APPLICANT: MILBRANDT, JEFFREY D
;   APPLICANT: KOTZBAUER, PAUL T
;   APPLICANT: LAMPE, PATRICIA A
;   APPLICANT: KLEIN, ROBERT
;   APPLICANT: DESAUVAGE, FRED
;   TITLE OF INVENTION: PERSEPHIN AND RELATED GROWTH FACTOR
;   NUMBER OF SEQUENCES: 239
;   CORRESPONDENCE ADDRESS:
;   ADDRESSEE: HOWELL & HAFERKAMP, L.C.
;   STREET: 7733 FORSYTH BOULEVARD, SUITE 1400
;   CITY: ST. LOUIS
;   STATE: MO
;   COUNTRY: USA
;   ZIP: 63105
;   COMPUTER READABLE FORM:
;   MEDIUM TYPE: Floppy disk
;   COMPUTER: IBM PC compatible
;   OPERATING SYSTEM: PC-DOS/MS-DOS
;   SOFTWARE: PatentIn Release #1.0, Version #1.30
;   CURRENT APPLICATION DATA:
;   APPLICATION NUMBER: US/08/931,858E
;   FILING DATE:
;   CLASSIFICATION: 435
;   ATTORNEY/AGENT INFORMATION:
;   NAME: HOLLAND, DONALD R.
;   REGISTRATION NUMBER: 35,197
;   REFERENCE/DOCKET NUMBER: 971486
;   TELECOMMUNICATION INFORMATION:
;   TELEPHONE: 314-727-5188
;   TELEFAX: 314-727-6092
; INFORMATION FOR SEQ ID NO: 196:
;   SEQUENCE CHARACTERISTICS:
;   LENGTH: 156 amino acids
;   TYPE: amino acid
;   STRANDEDNESS:
;   TOPOLOGY: linear
;   MOLECULE TYPE: peptide
US-08-931-858E-196

Query Match   63.2%; Score 530; DB 4; Length 156;
Best Local Similarity   66.0%; Pred. No. 6.9e-53;
Matches 105;   Conservative 13; Mismatches 35; Indels 6; Gaps 3;

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Qy       1 MAVGKFLLGSLLLLSLQLGQGWGPDARGVPVADGEFSSEQVAKAGGTW---LGTHRPLAR 57
           ||| :  :|||||| || ||| | ||  :: ||  | ::: : | ||    ||||||| |
Db       1 MAAGRLRILFLLLSLHLGLGWVLDLQEAPAAD-ELSSGKMAETGRTWKPHQGNNN--VR 57

Qy      58 LRRALSGPCQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQGQGR 117
           | ||| | |:|||||| |||||||||||:|||||||||||| : |||||: : |||:||||
Db      58 LPRALPGLCRLWSLTLPVAELGLGYASEEKIIFRYCAGSCPQEVRTQHSLVLARLRGQGR 117

Qy     118 AHGGPCCRPTRYTDVAFLDDRHRWQRLPQLSAAACGCGG 156
           ||| ||| || :  || ||| | :|: |||||||||||||
Db     118 AHGRPCCQPTSYADVTFLDDHHHWQQLPQLSAAACGCGG 156
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US-08-931-858E-196

RESULT 4
US-08-931-858E-221
; Sequence 221, Application US/08931858E
; Patent No. 6222022
; GENERAL INFORMATION:
;   APPLICANT: JOHNSON, EUGENE M
;   APPLICANT: MILBRANDT, JEFFREY D
;   APPLICANT: KOTZBAUER, PAUL T
;   APPLICANT: LAMPE, PATRICIA A
;   APPLICANT: KLEIN, ROBERT

```
  APPLICANT: DESAUVAGE, FRED
  TITLE OF INVENTION: PERSEPHIN AND RELATED GROWTH FACTOR
  NUMBER OF SEQUENCES: 239
  CORRESPONDENCE ADDRESS:
    ADDRESSEE: HOWELL & HAFERKAMP, L.C.
    STREET: 7733 FORSYTH BOULEVARD, SUITE 1400
    CITY: ST. LOUIS
    STATE: MO
    COUNTRY: USA
    ZIP: 63105
  COMPUTER READABLE FORM:
    MEDIUM TYPE: Floppy disk
    COMPUTER: IBM PC compatible
    OPERATING SYSTEM: PC-DOS/MS-DOS
    SOFTWARE: PatentIn Release #1.0, Version #1.30
  CURRENT APPLICATION DATA:
    APPLICATION NUMBER: US/08/931,858E
    FILING DATE:
    CLASSIFICATION: 435
  ATTORNEY/AGENT INFORMATION:
    NAME: HOLLAND, DONALD R.
    REGISTRATION NUMBER: 35,197
    REFERENCE/DOCKET NUMBER: 971486
  TELECOMMUNICATION INFORMATION:
    TELEPHONE: 314-727-5188
    TELEFAX: 314-727-6092
  INFORMATION FOR SEQ ID NO: 221:
  SEQUENCE CHARACTERISTICS:
    LENGTH: 96 amino acids
    TYPE: amino acid
    STRANDEDNESS:
    TOPOLOGY: linear
    MOLECULE TYPE: peptide
US-08-931-858E-221

Query Match       63.1%;   Score 529;   DB 4;   Length 96;
Best Local Similarity   100.0%;   Pred. No. 4.8e-53;
Matches   96;  Conservative   0;  Mismatches   0;  Indels   0;  Gaps   0;

Qy  61 ALSGPCQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQGQGRAHG 120
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Db   1 ALSGPCQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQGQGRAHG 60

Qy 121 GPCCRPTRYTDVAFLDDRHRWQRLPQLSAAACGCGG 156
        ||||||||||||||||||||||||||||||||||||
Db  61 GPCCRPTRYTDVAFLDDRHRWQRLPQLSAAACGCGG 96

RESULT 5
US-09-220-528-15
; Sequence 15, Application US/09220528A
; Patent No. 6284540
; GENERAL INFORMATION:
; APPLICANT: Milbrandt, Jeffrey D.
; APPLICANT: Baloh, Robert H.
; TITLE OF INVENTION: Artemin, A No. 6284540el Neurotrophic Factor
; FILE REFERENCE: 6029-7998
; CURRENT APPLICATION NUMBER: US/09/220,528A
; CURRENT FILING DATE: 1998-12-24
; EARLIER APPLICATION NUMBER: 09/218,698
; EARLIER FILING DATE: 1998-12-22
; EARLIER APPLICATION NUMBER: 60/108,148
; EARLIER FILING DATE: 1998-11-12
; EARLIER APPLICATION NUMBER: 09/163,283
; EARLIER FILING DATE: 1998-09-29
; NUMBER OF SEQ ID NOS: 120
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 15
; LENGTH: 96
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-220-528-15
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Query Match       63.1%;   Score 529;   DB 4;   Length 96;
Best Local Similarity   100.0%;   Pred. No. 4.8e-53;
Matches   96;  Conservative   0;  Mismatches   0;  Indels   0;  Gaps   0;

Qy  61 ALSGPCQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQGQGRAHG 120
        |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db   1 ALSGPCQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQGQGRAHG 60

Qy 121 GPCCRPTRYTDVAFLDDRHRWQRLPQLSAAACGCGG 156
        ||||||||||||||||||||||||||||||||||||
Db  61 GPCCRPTRYTDVAFLDDRHRWQRLPQLSAAACGCGG 96

RESULT 6
US-08-931-858E-185
; Sequence 185, Application US/0893185BE
; Patent No. 6222022
; GENERAL INFORMATION:
; APPLICANT: JOHNSON, EUGENE M
; APPLICANT: MILBRANDT, JEFFREY D
; APPLICANT: KOTZBAUER, PAUL T
; APPLICANT: LAMPE, PATRICIA A
; APPLICANT: KLEIN, ROBERT
; APPLICANT: DESAUVAGE, FRED
; TITLE OF INVENTION: PERSEPHIN AND RELATED GROWTH FACTOR
; NUMBER OF SEQUENCES: 239
; CORRESPONDENCE ADDRESS:
;   ADDRESSEE: HOWELL & HAFERKAMP, L.C.
;   STREET: 7733 FORSYTH BOULEVARD, SUITE 1400
;   CITY: ST. LOUIS
;   STATE: MO
;   COUNTRY: USA
;   ZIP: 63105
; COMPUTER READABLE FORM:
;   MEDIUM TYPE: Floppy disk
;   COMPUTER: IBM PC compatible
;   OPERATING SYSTEM: PC-DOS/MS-DOS
;   SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
;   APPLICATION NUMBER: US/08/931,858E
;   FILING DATE:
;   CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
;   NAME: HOLLAND, DONALD R.
;   REGISTRATION NUMBER: 35,197
;   REFERENCE/DOCKET NUMBER: 971486
; TELECOMMUNICATION INFORMATION:
;   TELEPHONE: 314-727-5188
;   TELEFAX: 314-727-6092
; INFORMATION FOR SEQ ID NO: 185:
; SEQUENCE CHARACTERISTICS:
;   LENGTH: 156 amino acids
;   TYPE: amino acid
;   STRANDEDNESS:
;   TOPOLOGY: linear
;   MOLECULE TYPE: peptide
US-08-931-858E-185

Query Match       60.9%;   Score 511;   DB 4;   Length 156;
Best Local Similarity   64.2%;   Pred. No. 1e-50;
Matches  102;  Conservative  16;  Mismatches  35;  Indels   6;  Gaps   3;

Qy   1 MAVGKFLLGSLLLLSLQLGQGWGPDARGVPVADGEFSSEQVAKAGGTWL---GTHRPLAR 57
        ||  : ||| : :||||| : | ::| -|- ::|: :| |
Db   1 MAAGRLRILCLLLLSLHPSLGWVLDLQEASVAD-KLSFGKMAETRGTWTPHQGNNH--VR 57

Qy  58 LRRALSGPCQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQGQGR 117
        |||:: |||||||||||||||||||||||||||||||||| ||||:: :: :: :||
Db  58 LPRALAGSCRLWSLTLPVAELGLGYASEEKVIFRYCAGSCPRGARTQHSLVLARLRGRGR 117

Qy 118 AHGGPCCRPTRYTDVAFLDDRHRWQRLPQLSAAACGCGG 156
        ||| |||: ||: ||| :||: ||:||||||||| |||||
Db 118 AHGRPCCQPTSYADVTFLDDQHHWQQLPQLSAAAACGCGG 156
```

RESULT 7
US-08-931-858E-223
; Sequence 223, Application US/08931858E
; Patent No. 6222022
; GENERAL INFORMATION:
; APPLICANT: JOHNSON, EUGENE M
; APPLICANT: MILBRANDT, JEFFREY D
; APPLICANT: KOTZBAUER, PAUL T
; APPLICANT: LAMPE, PATRICIA A
; APPLICANT: KLEIN, ROBERT
; APPLICANT: DESAUVAGE, FRED
; TITLE OF INVENTION: PERSEPHIN AND RELATED GROWTH FACTOR
; NUMBER OF SEQUENCES: 239
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: HOWELL & HAFERKAMP, L.C.
; STREET: 7733 FORSYTH BOULEVARD, SUITE 1400
; CITY: ST. LOUIS
; STATE: MO
; COUNTRY: USA
; ZIP: 63105
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/931,858E
; FILING DATE:
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: HOLLAND, DONALD R.
; REGISTRATION NUMBER: 35,197
; REFERENCE/DOCKET NUMBER: 971486
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 314-727-5188
; TELEFAX: 314-727-6092
; INFORMATION FOR SEQ ID NO: 223:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 89 amino acids
; TYPE: amino acid
; STRANDEDNESS:
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
US-08-931-858E-223

Query Match   58.6%; Score 492; DB 4; Length 89;
Best Local Similarity 100.0%; Pred. No. 7.3e-49;
Matches 89; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 66 CQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQGQGRAHGGPCCR 125
        ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db   1 CQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQGQGRAHGGPCCR 60

Qy 126 PTRYTDVAFLDDRHRWQRLPQLSAAACGC 154
        |||||||||||||||||||||||||||||
Db 61 PTRYTDVAFLDDRHRWQRLPQLSAAACGC 89

RESULT 8
US-09-220-528-18
; Sequence 18, Application US/09220528A
; Patent No. 6284540
; GENERAL INFORMATION:
; APPLICANT: Milbrandt, Jeffrey D.
; APPLICANT: Baloh, Robert H.
; TITLE OF INVENTION: Artemin, A No. 6284540e1 Neurotrophic Factor
; FILE REFERENCE: 6029-7998
; CURRENT APPLICATION NUMBER: US/09/220,528A
; CURRENT FILING DATE: 1998-12-24
; EARLIER APPLICATION NUMBER: 09/218,698
; EARLIER FILING DATE: 1998-12-22
; EARLIER APPLICATION NUMBER: 60/108,148
; EARLIER FILING DATE: 1998-11-12
; EARLIER APPLICATION NUMBER: 09/163,283
; EARLIER FILING DATE: 1998-09-29
; NUMBER OF SEQ ID NOS: 120
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 18
; LENGTH: 89
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-220-528-18

Query Match   58.6%; Score 492; DB 4; Length 89;
Best Local Similarity 100.0%; Pred. No. 7.3e-49;
Matches 89; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 66 CQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQGQGRAHGGPCCR 125
        ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db   1 CQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQGQGRAHGGPCCR 60

Qy 126 PTRYTDVAFLDDRHRWQRLPQLSAAACGC 154
        |||||||||||||||||||||||||||||
Db 61 PTRYTDVAFLDDRHRWQRLPQLSAAACGC 89

RESULT 9
US-08-981-739-133
; Sequence 133, Application US/08981739
; Patent No. 6232449
; GENERAL INFORMATION:
; APPLICANT: JOHNSON JR., EUGENE M.
;   MILBRANDT, JEFFREY D.
;   KOTZBAUER, PAUL T.
;   LAMPE, PATRICIA A.
; TITLE OF INVENTION: PERSEPHIN AND RELATED GROWTH FACTORS
; NUMBER OF SEQUENCES: 176
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: HOWELL & HAFERKAMP, L.C.
; STREET: 7733 FORSYTH BOULEVARD, SUITE 1400
; CITY: ST. LOUIS
; STATE: MISSOURI
; COUNTRY: US
; ZIP: 63105-1817
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/981,739
; FILING DATE: 31-Aug-1998
; CLASSIFICATION: <Unknown>
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: PCT/US97/03461
; FILING DATE: <Unknown>
; ATTORNEY/AGENT INFORMATION:
; NAME: HOLLAND, DONALD R.
; REGISTRATION NUMBER: 35,197
; REFERENCE/DOCKET NUMBER: 976163
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (314) 727-5188
; TELEFAX: (314) 727-6092
; INFORMATION FOR SEQ ID NO: 133:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 185 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; SEQUENCE DESCRIPTION: SEQ ID NO: 133:
US-08-981-739-133

Query Match   53.9%; Score 452; DB 4; Length 185;

```
Best Local Similarity  57.3%;  Pred. No. 6.7e-44;
Matches  94;  Conservative  14;  Mismatches  40;  Indels  16;  Gaps  3;

Qy      9  GSLLL------LSLQLG----QGWGPDAR-----GVPVADGEFSSEQVAKAGGTWLGTH  52
           |||:       :| ||         :|  |         :|:          :|
Db     22  GSLIFKRLLWQISSHLGRWQRLEGPGRPIRVRIPGGLPTPQFLLSKPSLCLTILLYLALG  81

Qy     53  RPLARLRRALSGPCQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARL  112
           || |||:| |:||||||||||||||||||||||||: |||| | ||||
Db     82  NNHVRLPRALAGSCRLWSLTLPVAELGLGYASEEKVIFRYCAGSCPQEARTQHSLVLARL  141

Qy    113  QGQGRAHGGPCCRPTRYTDVAFLDDRHRWQRLPQLSAAACGCGG  156
           :|:||||| |||:|| | || ||||||:|| ||:|||||||||
Db    142  RGRGRAHGRPCCQPTSYADVTFLDDQHHWQQLPQLSAAACGCGG  185


RESULT 10
US-09-128-026-133
; Sequence 133, Application US/09128026
; Patent No. 6403335
; GENERAL INFORMATION:
; APPLICANT: JOHNSON JR., EUGENE M.
; APPLICANT: MILBRANDT, JEFFREY D.
; APPLICANT: KOTZBAUER, PAUL T.
; APPLICANT: LAMPE, PATRICIA A.
; TITLE OF INVENTION: PERSEPHIN AND RELATED GROWTH FACTORS
; NUMBER OF SEQUENCES: 176
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: HOWELL & HAFERKAMP, L.C.
; STREET: 7733 FORSYTH BOULEVARD, SUITE 1400
; CITY: ST. LOUIS
; STATE: MISSOURI
; COUNTRY: US
; ZIP: 63105-1817
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/128,026
; FILING DATE:
; CLASSIFICATION:
; ATTORNEY/AGENT INFORMATION:
; NAME: HOLLAND, DONALD R.
; REGISTRATION NUMBER: 35,197
; REFERENCE/DOCKET NUMBER: 976163
; TELECOMUNICATION INFORMATION:
; TELEPHONE: (314) 727-5188
; TELEFAX: (314) 727-6092
; INFORMATION FOR SEQ ID NO: 133:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 185 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
US-09/128-026-133

Query Match  53.9%;  Score 452;  DB 4;  Length 185;
Best Local Similarity  57.3%;  Pred. No. 6.7e-44;
Matches  94;  Conservative  14;  Mismatches  40;  Indels  16;  Gaps  3;

Qy      9  GSLLL------LSLQLG----QGWGPDAR-----GVPVADGEFSSEQVAKAGGTWLGTH  52
           |||:       :| ||         :|  |         :|:          :|
Db     22  GSLIFKRLLWQISSHLGRWQRLEGPGRPIRVRIPGGLPTPQFLLSKPSLCLTILLYLALG  81

Qy     53  RPLARLRRALSGPCQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARL  112
           || |||:| |:||||||||||||||||||||||||: |||| | ||||
Db     82  NNHVRLPRALAGSCRLWSLTLPVAELGLGYASEEKVIFRYCAGSCPQEARTQHSLVLARL  141

Qy    113  QGQGRAHGGPCCRPTRYTDVAFLDDRHRWQRLPQLSAAACGCGG  156
           :|:||||| |||:|| | || ||||||:|| ||:|||||||||
Db    142  RGRGRAHGRPCCQPTSYADVTFLDDQHHWQQLPQLSAAACGCGG  185


RESULT 11
US-08-981-739-81
; Sequence 81, Application US/08981739
; Patent No. 6232449
; GENERAL INFORMATION:
; APPLICANT: JOHNSON JR., EUGENE M.
; MILBRANDT, JEFFREY D.
; KOTZBAUER, PAUL T.
; LAMPE, PATRICIA A.
; TITLE OF INVENTION: PERSEPHIN AND RELATED GROWTH FACTORS
; NUMBER OF SEQUENCES: 176
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: HOWELL & HAFERKAMP, L.C.
; STREET: 7733 FORSYTH BOULEVARD, SUITE 1400
; CITY: ST. LOUIS
; STATE: MISSOURI
; COUNTRY: US
; ZIP: 63105-1817
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/981,739
; FILING DATE: 31-Aug-1998
; CLASSIFICATION: <Unknown>
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: PCT/US97/03461
; FILING DATE: <Unknown>
; ATTORNEY/AGENT INFORMATION:
; NAME: HOLLAND, DONALD R.
; REGISTRATION NUMBER: 35,197
; REFERENCE/DOCKET NUMBER: 976163
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (314) 727-5188
; TELEFAX: (314) 727-6092
; INFORMATION FOR SEQ ID NO: 81:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 134 amino acids
; TYPE: amino acid
; STRANDEDNESS: <Unknown>
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; SEQUENCE DESCRIPTION: SEQ ID NO: 81:
US-08-981-739-81

Query Match  53.8%;  Score 451;  DB 4;  Length 134;
Best Local Similarity  81.0%;  Pred. No. 5.8e-44;
Matches  81;  Conservative  8;  Mismatches  11;  Indels  0;  Gaps  0;

Qy     57  RLRRALSGPCQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQGQG  116
           || ||||: |:||||||| |||||||||||||||||||||||| |||||||:| |||||:|
Db     35  RLPRALAGSCRLWSLTLPVAELGLGYASEEKVIFRYCAGSCPQEARTQHSLVLARLRGRG  94

Qy    117  RAHGGPCCRPTRYTDVAFLDDRHRWQRLPQLSAAACGCGG  156
           :|:||| |||:|| | |||| ||:|| ||:|||||||||
Db     95  RAHGRPCCQPTSYADVTFLDDQHHWQQLPQLSAAACGCGG  134


RESULT 12
US-09-128-026-81
; Sequence 81, Application US/09128026
; Patent No. 6403335
; GENERAL INFORMATION:
; APPLICANT: JOHNSON JR., EUGENE M.
; APPLICANT: MILBRANDT, JEFFREY D.
; APPLICANT: KOTZBAUER, PAUL T.
; APPLICANT: LAMPE, PATRICIA A.
; TITLE OF INVENTION: PERSEPHIN AND RELATED GROWTH FACTORS
```

```
NUMBER OF SEQUENCES: 176
CORRESPONDENCE ADDRESS:
  ADDRESSEE: HOWELL & HAFERKAMP, L.C.
  STREET: 7733 FORSYTH BOULEVARD, SUITE 1400
  CITY: ST. LOUIS
  STATE: MISSOURI
  COUNTRY: US
  ZIP: 63105-1817
COMPUTER READABLE FORM:
  MEDIUM TYPE: Floppy disk
  COMPUTER: IBM PC compatible
  OPERATING SYSTEM: PC-DOS/MS-DOS
  SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
  APPLICATION NUMBER: US/09/128,026
  FILING DATE:
  CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
  NAME: HOLLAND, DONALD R.
  REGISTRATION NUMBER: 35,197
  REFERENCE/DOCKET NUMBER: 976163
TELECOMMUNICATION INFORMATION:
  TELEPHONE: (314) 727-5188
  TELEFAX: (314) 727-6092
INFORMATION FOR SEQ ID NO: 81:
SEQUENCE CHARACTERISTICS:
  LENGTH: 134 amino acids
  TYPE: amino acid
  STRANDEDNESS:
  TOPOLOGY: linear
  MOLECULE TYPE: protein
US-09-128-026-81

Query Match            53.8%;  Score 451;  DB 4;  Length 134;
Best Local Similarity  81.0%;  Pred. No. 5.8e-44;
Matches   81;  Conservative   8;  Mismatches  11;  Indels  0;  Gaps  0;

Qy    57  RLRRALSGPCQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQGQG  116
          || ||||:| |:|||||:|  ||||| |||| ||||||||||||| | ||||| | ||:|
Db    35  RLPRALAGSCRLWSLTLPVAELGLGYASEEKVIFRYCAGSCPQEARTQHSLVLARLRGRG   94

Qy   117  RAHGGPCCRPTRYTDVAFLDDRHRWQRLPQLSAAACGCGG  156
          |||| ||||:|| | |||:| |:||||||||||||||||
Db    95  RAHGRPCCQPTSYADVTFLDDQHHWQQLPQLSAAACGCGG  134

RESULT 13
US-08-931-858E-111
; Sequence 111, Application US/08931858E
; Patent No. 6222022
GENERAL INFORMATION:
  APPLICANT: JOHNSON, EUGENE M
  APPLICANT: MILBRANDT, JEFFREY D
  APPLICANT: KOTZBAUER, PAUL T
  APPLICANT: LAMPE, PATRICIA A
  APPLICANT: KLEIN, ROBERT
  APPLICANT: DESAUVAGE, FRED
TITLE OF INVENTION: PERSEPHIN AND RELATED GROWTH FACTOR
NUMBER OF SEQUENCES: 239
CORRESPONDENCE ADDRESS:
  ADDRESSEE: HOWELL & HAFERKAMP, L.C.
  STREET: 7733 FORSYTH BOULEVARD, SUITE 1400
  CITY: ST. LOUIS
  STATE: MO
  COUNTRY: USA
  ZIP: 63105
COMPUTER READABLE FORM:
  MEDIUM TYPE: Floppy disk
  COMPUTER: IBM PC compatible
  OPERATING SYSTEM: PC-DOS/MS-DOS
  SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
  APPLICATION NUMBER: US/08/931,858E
```

```
  FILING DATE:
  CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
  NAME: HOLLAND, DONALD R.
  REGISTRATION NUMBER: 35,197
  REFERENCE/DOCKET NUMBER: 971486
TELECOMMUNICATION INFORMATION:
  TELEPHONE: 314-727-5188
  TELEFAX: 314-727-6092
INFORMATION FOR SEQ ID NO: 111:
SEQUENCE CHARACTERISTICS:
  LENGTH: 142 amino acids
  TYPE: amino acid
  STRANDEDNESS:
  TOPOLOGY: linear
  MOLECULE TYPE: protein
US-08-931-858E-111

Query Match            53.8%;  Score 451;  DB 4;  Length 142;
Best Local Similarity  81.0%;  Pred. No. 6.2e-44;
Matches   81;  Conservative   8;  Mismatches  11;  Indels  0;  Gaps  0;

Qy    57  RLRRALSGPCQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQGQG  116
          || ||||:| |:|||||:|  ||||| |||| ||||||||||||| | ||||| | ||:|
Db    43  RLPRALAGSCRLWSLTLPVAELGLGYASEEKVIFRYCAGSCPQEARTQHSLVLARLRGRG  102

Qy   117  RAHGGPCCRPTRYTDVAFLDDRHRWQRLPQLSAAACGCGG  156
          |||| ||||:|| | |||:| |:||||||||||||||||
Db   103  RAHGRPCCQPTSYADVTFLDDQHHWQQLPQLSAAACGCGG  142

RESULT 14
US-08-981-739-111
; Sequence 111, Application US/08981739
; Patent No. 6222449
GENERAL INFORMATION:
  APPLICANT: JOHNSON JR., EUGENE M.
  APPLICANT: MILBRANDT, JEFFREY D.
  APPLICANT: KOTZBAUER, PAUL T.
  APPLICANT: LAMPE, PATRICIA A.
TITLE OF INVENTION: PERSEPHIN AND RELATED GROWTH FACTORS
NUMBER OF SEQUENCES: 176
CORRESPONDENCE ADDRESS:
  ADDRESSEE: HOWELL & HAFERKAMP, L.C.
  STREET: 7733 FORSYTH BOULEVARD, SUITE 1400
  CITY: ST. LOUIS
  STATE: MISSOURI
  COUNTRY: US
  ZIP: 63105-1817
COMPUTER READABLE FORM:
  MEDIUM TYPE: Floppy disk
  COMPUTER: IBM PC compatible
  OPERATING SYSTEM: PC-DOS/MS-DOS
  SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
  APPLICATION NUMBER: US/08/981,739
  FILING DATE: 31-Aug-1998
  CLASSIFICATION: <Unknown>
PRIOR APPLICATION DATA:
  APPLICATION NUMBER: PCT/US97/03461
  FILING DATE: <Unknown>
ATTORNEY/AGENT INFORMATION:
  NAME: HOLLAND, DONALD R.
  REGISTRATION NUMBER: 35,197
  REFERENCE/DOCKET NUMBER: 976163
TELECOMMUNICATION INFORMATION:
  TELEPHONE: (314) 727-5188
  TELEFAX: (314) 727-6092
INFORMATION FOR SEQ ID NO: 111:
SEQUENCE CHARACTERISTICS:
  LENGTH: 142 amino acids
  TYPE: amino acid
  STRANDEDNESS: <Unknown>
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;     TOPOLOGY: linear
;     MOLECULE TYPE: protein
;     SEQUENCE DESCRIPTION: SEQ ID NO: 111:
US-08-981-739-111

Query Match          53.8%;  Score 451; DB 4;  Length 142;
Best Local Similarity  81.0%;  Pred. No. 6.2e-44;
Matches  81;  Conservative  8;  Mismatches  11;  Indels  0;  Gaps  0;

Qy   57  RLRRALSGPCQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQGQG 116
             || |||:| |:||||| |||||||||||||||||||: ||||| | ||||:|:|
Db   43  RLPRALAGSCRLWSLTLPVAELGLGYASEEKVIFRYCAGSCPQEARTQHSLVLARLRGRG 102

Qy  117  RAHGGPCCRPTRYTDVAFLDDRHRWQRLPQLSAAACGCGG 156
             |||| |||:|| || ||||:|| |::||||||||||||
Db  103  RAHGRPCCQPTSYADVTFLDDQHHWQQLPQLSAAACGCGG 142


RESULT 15
;US-09-128-026-111
;  Sequence 111, Application US/09128026
;  Patent No. 6403335
;  GENERAL INFORMATION:
;     APPLICANT: JOHNSON JR., EUGENE M.
;     APPLICANT: MILBRANDT, JEFFREY D.
;     APPLICANT: KOTZBAUER, PAUL T.
;     APPLICANT: LAMPE, PATRICIA A.
;     TITLE OF INVENTION: PERSEPHIN AND RELATED GROWTH FACTORS
;     NUMBER OF SEQUENCES: 176
;     CORRESPONDENCE ADDRESS:
;        ADDRESSEE: HOWELL & HAFERKAMP, L.C.
;        STREET: 7733 FORSYTH BOULEVARD, SUITE 1400
;        CITY: ST. LOUIS
;        STATE: MISSOURI
;        COUNTRY: US
;        ZIP: 63105-1817
;     COMPUTER READABLE FORM:
;        MEDIUM TYPE: Floppy disk
;        COMPUTER: IBM PC compatible
;        OPERATING SYSTEM: PC-DOS/MS-DOS
;        SOFTWARE: PatentIn Release #1.0, Version #1.30
;     CURRENT APPLICATION DATA:
;        APPLICATION NUMBER: US/09/128,026
;        FILING DATE:
;        CLASSIFICATION:
;     ATTORNEY/AGENT INFORMATION:
;        NAME: HOLLAND, DONALD R.
;        REGISTRATION NUMBER: 35,197
;        REFERENCE/DOCKET NUMBER: 976163
;     TELECOMMUNICATION INFORMATION:
;        TELEPHONE:  (314) 727-5188
;        TELEFAX:  (314) 727-6092
;  INFORMATION FOR SEQ ID NO: 111:
;     SEQUENCE CHARACTERISTICS:
;        LENGTH: 142 amino acids
;        TYPE: amino acid
;        STRANDEDNESS:
;        TOPOLOGY: linear
;     MOLECULE TYPE: protein
US-09-128-026-111

Query Match          53.8%;  Score 451; DB 4;  Length 142;
Best Local Similarity . 81.0%;  Pred. No. 6.2e-44;
Matches  81;  Conservative  8;  Mismatches  11;  Indels  0;  Gaps  0;

Qy   57  RLRRALSGPCQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQGQG 116
             || |||:| |:||||| |||||||||||||||||||: ||||| | ||||:|:|
Db   43  RLPRALAGSCRLWSLTLPVAELGLGYASEEKVIFRYCAGSCPQEARTQHSLVLARLRGRG 102

Qy  117  RAHGGPCCRPTRYTDVAFLDDRHRWQRLPQLSAAACGCGG 156
             |||| |||:|| || ||||:|| |::||||||||||||
Db  103  RAHGRPCCQPTSYADVTFLDDQHHWQQLPQLSAAACGCGG 142
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OM protein - protein search, using sw model

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            Copyright   GenCore version 5.1.6
            Copyright (c) 1993 - 2003 Compugen Ltd.

Run on:     July 11, 2003, 12:46:49 ; Search time 22 Seconds
                                       (without alignments)
                                       825.522 Million cell updates/sec

Title:           US-09-220-617B-217
Perfect score:   839
Sequence:        1 MAVGKFLLGSLLLLSLQLGQ..........DRHRWQRLPQLSAAACGCGG 156

Scoring table:   BLOSUM62
                 Gapop 10.0 , Gapext 0.5

searched:        445758 seqs, 116419773 residues
Total number of hits satisfying chosen parameters:    445758

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
                 Maximum Match 100%
                 Listing first 45 summaries

Database :  Published_Applications_AA:*
     1:  /cgn2_6/ptodata/1/pubpaa/US07_NEW_PUB.pep:*
     2:  /cgn2_6/ptodata/1/pubpaa/PCT_NEW_PUB.pep:*
     3:  /cgn2_6/ptodata/1/pubpaa/US06_NEW_PUB.pep:*
     4:  /cgn2_6/ptodata/1/pubpaa/US06_PUBCOMB.pep:*
     5:  /cgn2_6/ptodata/1/pubpaa/PCTUS_PUBCOMB.pep:*
     6:  /cgn2_6/ptodata/1/pubpaa/US07_PUBCOMB.pep:*
     7:  /cgn2_6/ptodata/1/pubpaa/US08_NEW_PUB.pep:*
     8:  /cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*
     9:  /cgn2_6/ptodata/1/pubpaa/US09_NEW_PUB.pep:*
    10:  /cgn2_6/ptodata/1/pubpaa/US09_PUBCOMB.pep:*
    11:  /cgn2_6/ptodata/1/pubpaa/US10_NEW_PUB.pep:*
    12:  /cgn2_6/ptodata/1/pubpaa/US10_PUBCOMB.pep:*
    13:  /cgn2_6/ptodata/1/pubpaa/US60_NEW_PUB.pep:*
    14:  /cgn2_6/ptodata/1/pubpaa/US60_PUBCOMB.pep:*
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Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Match Length	DB	ID	Description
1	839	100.0	157	9	US-09-813-398-41	Sequence 41, Appl
2	554.5	66.1	183	10	US-09-800-729-101	Sequence 101, App
3	529	63.1	96	10	US-09-220-920-15	Sequence 15, Appl
4	492	58.6	89	10	US-09-220-920-18	Sequence 18, Appl
5	294	35.0	252	10	US-09-800-729-133	Sequence 133, App
6	244	29.1	140	10	US-09-220-920-5	Sequence 5, Appli
7	244	29.1	140	10	US-09-804-615-10	Sequence 10, Appl
8	244	29.1	159	10	US-09-220-920-12	Sequence 12, Appl
9	244	29.1	159	10	US-09-220-920-89	Sequence 89, Appl
10	244	29.1	181	10	US-09-220-920-40	Sequence 40, Appl
11	244	29.1	220	9	US-10-001-054-56	Sequence 56, Appl
12	244	29.1	220	9	US-10-223-085-318	Sequence 318, App
13	244	29.1	220	9	US-10-223-084-318	Sequence 318, App
14	244	29.1	220	9	US-10-223-088-318	Sequence 318, App
15	244	29.1	220	9	US-10-223-090-318	Sequence 318, App
16	244	29.1	220	9	US-10-223-087-318	Sequence 318, App
17	244	29.1	220	9	US-10-223-083-318	Sequence 318, App
18	244	29.1	220	9	US-10-223-089-318	Sequence 318, App
19	244	29.1	220	10	US-09-220-920-26	Sequence 26, Appl
20	244	29.1	220	10	US-09-804-615-9	Sequence 9, Appli
21	244	29.1	237	10	US-09-220-920-32	Sequence 32, Appl
22	244	29.1	238	9	US-09-813-398-40	Sequence 40, Appl
23	243	29.0	116	10	US-09-220-920-4	Sequence 4, Appli
24	243	29.0	116	10	US-09-804-615-11	Sequence 11, Appl
25	242	28.8	135	10	US-09-804-615-40	Sequence 40, Appl
26	241.5	28.8	144	10	US-09-220-920-36	Sequence 36, Appl
27	241.5	28.8	185	10	US-09-220-920-41	Sequence 41, Appl
28	241.5	28.8	224	10	US-09-220-920-29	Sequence 29, Appl
29	241.5	28.8	224	10	US-09-804-615-16	Sequence 16, Appl
30	238.5	28.4	200	10	US-09-804-615-2	Sequence 2, Appl
31	237	28.2	113	10	US-09-220-920-3	Sequence 3, Appl
32	237	28.2	113	10	US-09-804-615-12	Sequence 12, Appl
33	237	28.2	114	10	US-09-804-615-37	Sequence 37, Appl
34	237	28.2	140	10	US-09-804-615-5	Sequence 5, Appl
35	236.5	28.2	113	10	US-09-220-920-34	Sequence 34, Appl
36	236.5	28.2	116	10	US-09-220-920-35	Sequence 35, Appl
37	236	28.1	116	10	US-09-804-615-6	Sequence 6, Appl
38	235.5	28.1	224	10	US-09-804-615-34	Sequence 34, Appl
39	234	27.9	237	10	US-09-804-615-4	Sequence 4, Appl
40	231.5	27.6	96	10	US-09-220-920-33	Sequence 33, Appl
41	231.5	27.6	198	9	US-09-813-398-17	Sequence 17, Appl
42	230	27.4	113	10	US-09-804-615-7	Sequence 7, Appl
43	223.5	26.6	96	10	US-09-220-920-19	Sequence 19, Appl
44	219.5	26.2	102	10	US-09-220-920-14	Sequence 14, Appl
45	215.5	25.7	90	10	US-09-220-920-75	Sequence 75, Appl

ALIGNMENTS

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RESULT 1
US-09-813-398-41

;  Sequence 41, Application US/09813398
;  Patent No. US2002016929 2A1
;  GENERAL INFORMATION:
;  APPLICANT: Bruce D. Weintraub
;  APPLICANT: Mariusz W. Szkudlinski
;  APPLICANT: University of Maryland
;  TITLE OF INVENTION: CYSTINE KNOT GROWTH FACTOR MUTANTS
;  FILE REFERENCE: UOFMD.003C1
;  CURRENT APPLICATION NUMBER: US/09/813,398
;  CURRENT FILING DATE: 2001-03-20
;  PRIOR APPLICATION NUMBER: PCT/US99/05908
;  PRIOR FILING DATE: 1999-03-19
;  PRIOR APPLICATION NUMBER: PCT/US98/19772
;  PRIOR FILING DATE: 1998-09-22
;  NUMBER OF SEQ ID NOS: 41
;  SOFTWARE: FastSEQ for Windows Version 4.0
;  SEQ ID NO 41
;  LENGTH: 157
;  TYPE: PRT
;  ORGANISM: HOMO SAPIEN
US-09-813-398-41

Query Match            100.0%;  Score 839;  DB 9;  Length 157;
Best Local Similarity  100.0%;  Pred. No. 4.9e-71;
Matches 156;  Conservative   0;  Mismatches 0;  Indels   0;  Gaps   0;

Qy     1 MAVGKFLLGSLLLLSLQLGQGWGPDARGVPVADGEFSSEQVAKAGGTWLGTHRPLARLRR 60
           |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     2 MAVGKFLLGSLLLLSLQLGQGWGPDARGVPVADGEFSSEQVAKAGGTWLGTHRPLARLRR 61

Qy    61 ALSGPCQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQGQGRAHG 120
           |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    62 ALSGPCQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQGQGRAHG 121

Qy   121 GPCCRPTRYTDVAFLDDRHRWQRLPQLSAAACGCGG 156
           ||||||||||||||||||||||||||||||||||||
Db   122 GPCCRPTRYTDVAFLDDRHRWQRLPQLSAAACGCGG 157

RESULT 2
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US-09-800-729-101
; Sequence 101, Application US/09800729
; Patent No. US20020068319A1
; GENERAL INFORMATION:
; APPLICANT: Ni et al.
; TITLE OF INVENTION: 32 Human secreted proteins
; FILE REFERENCE: PZ044P1
; CURRENT APPLICATION NUMBER: US/09/800,729
; CURRENT FILING DATE: 2001-03-08
; PRIOR APPLICATION NUMBER: PCT/US00/26013
; PRIOR FILING DATE: 2000-09-22
; PRIOR APPLICATION NUMBER: 60/155,709
; PRIOR FILING DATE: 1999-09-24
; NUMBER OF SEQ ID NOS: 217
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 101
; LENGTH: 183
; TYPE: PRT
; ORGANISM: Homo sapiens
; FEATURE:
; NAME/KEY: SITE
; LOCATION: (86)
; OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids
; NAME/KEY: SITE
; LOCATION: (146)
; OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids
US-09-800-729-101

Query Match   66.1%;   Score 554.5;   DB 10;   Length 183;
Best Local Similarity   63.4%;   Pred. No. 2.2e-44;
Matches 118; Conservative 5; Mismatches 30; Indels 33; Gaps 5;

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Qy   1 MAVGKFLLGSLLLLSLQLGGWGPDARGVPVADGEFSSEQVAKAGGTWLGTH----RPLA 56
         |||||||||||||||||||||||||||||||||||||||||||||||||
Db   1 MAVGKFLLGSLLLLSLQLGGWGPDARGVPVADGEFSSEQVAKAGGTWLGKDFQGPSVTS 60

Qy  57 RLRRALS---------------GPCQLWSL------TLSVAELGLGYASEEKVIF 90
        :| ||:                :||:     |  ||| |||
Db  61 QLSPALTLLTVSALPSHRHPPPCPXAPSPVWSMPAVEPDPVRGRARPGLRLIGE--VIF 118

Qy  91 RYCAGSCPRGARTQHGLALARLQQGGRAHGGPCCRPTRYTDVAFLDDRHRWQRLPQLSAA 150
        ||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db 119 RYCAGSCPRGARTQHGLALARLQQGGRXHGGPCCRPTRYTDVAFLDDRHAGSGCPS-SRR 177

Qy 151 ACGCGG 156
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Db 178 LCGCGG 183
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SULT 3
-09-220-920-15
; Sequence 15, Application US/09220920
; Patent No. US20020002269A1
; GENERAL INFORMATION:
; APPLICANT: Milbrandt, Jeffrey D.
; APPLICANT: Baloh, Robert H.
; TITLE OF INVENTION: Artemin, A No. US20020002269A1e1 Neurotrophic Factor
; FILE REFERENCE: 6029-7996
; CURRENT APPLICATION NUMBER: US/09/220,920
; CURRENT FILING DATE: 1998-12-24
; EARLIER APPLICATION NUMBER: 09/163,283
; EARLIER FILING DATE: 1998-09-29
; EARLIER APPLICATION NUMBER: 60/108,148
; EARLIER FILING DATE: 1998-11-12
; EARLIER APPLICATION NUMBER: 09/218,698
; EARLIER FILING DATE: 1998-12-22
; NUMBER OF SEQ ID NOS: 120
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 15
; LENGTH: 96
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-220-920-15

Query Match   63.1%;   Score 529;   DB 10;   Length 96;
Best Local Similarity   100.0%;   Pred. No. 2.6e-42;
Matches 96; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy  61 ALSGPCQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQQGGRAHG 120
        |||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db   1 ALSGPCQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQQGGRAHG 60

Qy 121 GPCCRPTRYTDVAFLDDRHRWQRLPQLSAAACGCGG 156
        |||||||||||||||||||||||||||||||||
Db  61 GPCCRPTRYTDVAFLDDRHRWQRLPQLSAAACGCGG 96
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RESULT 4
US-09-220-920-18
; Sequence 18, Application US/09220920
; Patent No. US20020002269A1
; GENERAL INFORMATION:
; APPLICANT: Milbrandt, Jeffrey D.
; APPLICANT: Baloh, Robert H.
; TITLE OF INVENTION: Artemin, A No. US20020002269A1e1 Neurotrophic Factor
; FILE REFERENCE: 6029-7996
; CURRENT APPLICATION NUMBER: US/09/220,920
; CURRENT FILING DATE: 1998-12-24
; EARLIER APPLICATION NUMBER: 09/163,283
; EARLIER FILING DATE: 1998-09-29
; EARLIER APPLICATION NUMBER: 60/108,148
; EARLIER FILING DATE: 1998-11-12
; EARLIER APPLICATION NUMBER: 09/218,698
; EARLIER FILING DATE: 1998-12-22
; NUMBER OF SEQ ID NOS: 120
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 18
; LENGTH: 89
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-220-920-18

Query Match   58.6%;   Score 492;   DB 10;   Length 89;
Best Local Similarity   100.0%;   Pred. No. 6.8e-39;
Matches 89; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy  66 CQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQQGGRAHGGPCCR 125
        |||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db   1 CQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQQGGRAHGGPCCR 60

Qy 126 PTRYTDVAFLDDRHRWQRLPQLSAAACGC 154
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Db  61 PTRYTDVAFLDDRHRWQRLPQLSAAACGC 89
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RESULT 5
US-09-800-729-133
; Sequence 133, Application US/09800729
; Patent No. US20020068319A1
; GENERAL INFORMATION:
; APPLICANT: Ni et al.
; TITLE OF INVENTION: 32 Human secreted proteins
; FILE REFERENCE: PZ044P1
; CURRENT APPLICATION NUMBER: US/09/800,729
; CURRENT FILING DATE: 2001-03-08
; PRIOR APPLICATION NUMBER: PCT/US00/26013
; PRIOR FILING DATE: 2000-09-22
; PRIOR APPLICATION NUMBER: 60/155,709
; PRIOR FILING DATE: 1999-09-24
; NUMBER OF SEQ ID NOS: 217
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 133
; LENGTH: 252
; TYPE: PRT
; ORGANISM: Homo sapiens
; FEATURE:

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;   NAME/KEY: SITE
;   LOCATION: (86)
;   OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids
;   NAME/KEY: SITE
;   LOCATION: (116)
;   OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids
;   NAME/KEY: SITE
;   LOCATION: (135)
;   OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids
;   NAME/KEY: SITE
;   LOCATION: (146)
;   OTHER INFORMATION: Xaa equals any of the naturally occurring L-amino acids
US-09-800-729-133

Query Match      35.0%;  Score 294;  DB 10;  Length 252;
Best Local Similarity  41.6%;  Pred. No. 6.7e-20;
Matches  87;  Conservative   8;  Mismatches  50;  Indels  64;  Gaps   8;

Qy      1 MAVGKFLLGSLLLLSLQLGQGWGPDARGVPVADGEFSSEQVAKAGGTWLGTH----RPLA 56
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Db      1 MAVGKFLLGSLLLLSLQLGQGWGPDARGVPVADGEFSSEQVAKAGGTWLGKDFQGPSVTS 60

Qy     57 RLRRALS------------GPCQLWSL------TLSVAELGLGYASEE--KV 88
           :| ||:                         :| ||:
Db     61 QLSPAlTLLTVSALPSHRHPPPCPXAPSPVWSMPAVEPDVRGRARPGLRLIGEXHLPL 120

Qy     89 IFRYCAGSCPRGARTQHGLALARLQGGGRAHGGPCCRPTRYTDVAFLDDRH-------RW 141
           |   :|   ||  |     |:|                              ||
Db    121 LRRQLPPWCPHPA---------WXGAGPA-AGPGPXPRRALLPAHSLHRRGLPRRPPRW 169

Qy    142 QRLPQLSAA---------------ACGCGG 156
           ||||||||                :| ||
Db    170 QRLPQLSAALRLWWLRVPGLAPRSCSAGG 198
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```
RESULT 6
US-09-220-920-5
; Sequence 5, Application US/09220920
; Patent No. US2002000226A1
; GENERAL INFORMATION:
;   APPLICANT: Milbrandt, Jeffrey D.
;   APPLICANT: Baloh, Robert H.
;   TITLE OF INVENTION: Artemin, A No. US2002000226A1el Neurotrophic Factor
;   FILE REFERENCE: 6029-7996
;   CURRENT APPLICATION NUMBER: US/09/220,920
;   CURRENT FILING DATE: 1998-12-24
;   EARLIER APPLICATION NUMBER: 09/163,283
;   EARLIER FILING DATE: 1998-09-29
;   EARLIER APPLICATION NUMBER: 60/108,148
;   EARLIER FILING DATE: 1998-11-12
;   EARLIER APPLICATION NUMBER: 09/218,698
;   EARLIER FILING DATE: 1998-12-22
;   NUMBER OF SEQ ID NOS: 120
;   SOFTWARE: Patentin Ver. 2.0
;   SEQ ID NO 5
;   LENGTH: 140
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-220-920-5

Query Match      29.1%;  Score 244;  DB 10;  Length 140;
Best Local Similarity  44.8%;  Pred. No. 1.7e-15;
Matches  56;  Conservative  17;  Mismatches  36;  Indels  16;  Gaps   3;

Qy     40 QVAKAGGTWLGTHRPLARLRRALSGPCQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPR 99
            : :|||        :| :| : | : :  |   |||| :||:::||| :|:|:|||:|| |
Db     24 RAARAGG------PGSRARAAGARGCRLRSQLVPVRALGLGHRSDELVRFRFCSGSC-R 75

Qy    100 GARTQHGLALARLQGQG-------RAHGGPCCRPTRYTDVAFLDDRHRWQRLPQLSAAA 151
           |   ::|| ::|| : :       ||||||   ::|| |  |:|:    :: :|||
Db     76 RARSPHDLSLASLLGAGALRPPPGSRPVSQPCCRPTRYEAVSFMDVNSTWRTVDRLSATA 135

Qy    152 CGCGG 156
           ||||
Db    136 CGCLG 140
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RESULT 7
US-09-804-615-10
; Sequence 10, Application US/09804615
; Patent No. US2002005467A1
; GENERAL INFORMATION:
;   APPLICANT: Johansen, Teit E.
;   APPLICANT: Wen-Yee Saw, Dinah
;   TITLE OF INVENTION: No. US2002005467A1el Neurotrophic Factors
;   FILE REFERENCE: No. US2002005467A1el Neurotrophic Factors
;   CURRENT APPLICATION NUMBER: US/09/804,615
;   CURRENT FILING DATE: 2001-03-12
;   PRIOR APPLICATION NUMBER: DANISH  1998 00904
;   PRIOR FILING DATE: 1998-07-06
;   PRIOR APPLICATION NUMBER: USSN 60/092,229
;   PRIOR FILING DATE: 1998-07-09
;   PRIOR APPLICATION NUMBER: DANISH  1998 01048
;   PRIOR FILING DATE: 1998-08-19
;   PRIOR APPLICATION NUMBER: USSN 60/097,774
;   PRIOR FILING DATE: 1998-08-25
;   PRIOR APPLICATION NUMBER: USSN 60/103,908
;   PRIOR FILING DATE: 1998-10-13
;   PRIOR APPLICATION NUMBER: DANISH  1998 01265
;   PRIOR FILING DATE: 1998-10-06
;   PRIOR APPLICATION NUMBER: U.S.S.N 09/347,613
;   PRIOR FILING DATE: 1999-07-02
;   NUMBER OF SEQ ID NOS: 40
;   SOFTWARE: Patentin Ver. 2.1
;   SEQ ID NO 10
;   LENGTH: 140
;   TYPE: PRT
;   ORGANISM: Homo sapiens
;   FEATURE:
;   NAME/KEY: CARBOHYD
;   LOCATION: (122)
;   OTHER INFORMATION: glycosylated asparagine
US-09-804-615-10

Query Match      29.1%;  Score 244;  DB 10;  Length 140;
Best Local Similarity  44.8%;  Pred. No. 1.7e-15;
Matches  56;  Conservative  17;  Mismatches  36;  Indels  16;  Gaps   3;

Qy     40 QVAKAGGTWLGTHRPLARLRRALSGPCQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPR 99
            : :|||        :| :| : | : :  |   |||| :||:::||| :|:|:|||:|| |
Db     24 RAARAGG------PGSRARAAGARGCRLRSQLVPVRALGLGHRSDELVRFRFCSGSC-R 75

Qy    100 GARTQHGLALARLQGQG-------RAHGGPCCRPTRYTDVAFLDDRHRWQRLPQLSAAA 151
           |   ::|| ::|| : :       ||||||   ::|| |  |:|:    :: :|||
Db     76 RARSPHDLSLASLLGAGALRPPPGSRPVSQPCCRPTRYEAVSFMDVNSTWRTVDRLSATA 135

Qy    152 CGCGG 156
           ||||
Db    136 CGCLG 140
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RESULT 8
US-09-220-920-12
; Sequence 12, Application US/09220920
; Patent No. US2002000226A1
; GENERAL INFORMATION:
;   APPLICANT: Milbrandt, Jeffrey D.
;   APPLICANT: Baloh, Robert H.
;   TITLE OF INVENTION: Artemin, A No. US2002000226A1el Neurotrophic Factor
;   FILE REFERENCE: 6029-7996
;   CURRENT APPLICATION NUMBER: US/09/220,920
;   CURRENT FILING DATE: 1998-12-24
;   EARLIER APPLICATION NUMBER: 09/163,283
;   EARLIER FILING DATE: 1998-09-29
;   EARLIER APPLICATION NUMBER: 60/108,148
;   EARLIER FILING DATE: 1998-11-12
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; EARLIER APPLICATION NUMBER: 09/218,698
; EARLIER FILING DATE: 1998-12-22
; NUMBER OF SEQ ID NOS: 120
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 12
; LENGTH: 159
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-220-920-12

Query Match   29.1%; Score 244; DB 10; Length 159;
Best Local Similarity   44.8%; Pred. No. 1.9e-15;
Matches 56; Conservative 17; Mismatches 36; Indels 16; Gaps 3;

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           : :||||   : :| :||  |: |   |:|:: | | ||||: |:| |||| |||:: ||| |
Db     43  RAARAGG------PGSRARAAGARGCRLRSQLVPVRALGLGHRSDELVRFRFCSGSGSC-R   94

Qy    100  GARTOHGLALARLQGQG------RAHGGPCCRPTRYTDVAFLDDRHRWQRLPQLSAAA    151
           ||: |:|| :||  |||||||    : :|||  |
Db     95  RARSPHDLSLASLLGAGALRPPPGSRPVSQPCCRPTRYEAVSFMDVNSTWRTVDRLSATA   154

Qy    152  CGCGG  156
           ||| |
Db    155  CGCLG  159
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RESULT 9
US-09-220-920-89
; Sequence 89, Application US/09220920
; Patent No. US2002000226 9A1
; GENERAL INFORMATION:
; APPLICANT: Milbrandt, Jeffrey D.
; APPLICANT: Baloh, Robert H.
; TITLE OF INVENTION: Artemin, A No. US2002000226 9A1e1 Neurotrophic Factor
; FILE REFERENCE: 6029-7996
; CURRENT APPLICATION NUMBER: US/09/220,920
; CURRENT FILING DATE: 1998-12-24
; EARLIER APPLICATION NUMBER: 09/163,283
; EARLIER FILING DATE: 1998-09-29
; EARLIER APPLICATION NUMBER: 60/108,148
; EARLIER FILING DATE: 1998-11-12
; EARLIER APPLICATION NUMBER: 09/218,698
; EARLIER FILING DATE: 1998-12-22
; CURRENT APPLICATION NUMBER: 1998-12-22
; NUMBER OF SEQ ID NOS: 120
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 89
; LENGTH: 159
; TYPE: PRT
; ORGANISM: Homo sapiens
;-09-220-920-89

Query Match   29.1%; Score 244; DB 10; Length 159;
Best Local Similarity   44.8%; Pred. No. 1.9e-15;
Matches 56; Conservative 17; Mismatches 36; Indels 16; Gaps 3;

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Qy     40  QVAKAGGTWLGTHRPLARLRRALSGPCQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPR   99
           : :||||   : :| :||  |: |   |:|:: | | ||||: |:| |||| |||:: ||| |
Db     43  RAARAGG------PGSRARAAGARGCRLRSQLVPVRALGLGHRSDELVRFRFCSGSGSC-R   94

Qy    100  GARTOHGLALARLQGQG------RAHGGPCCRPTRYTDVAFLDDRHRWQRLPQLSAAA    151
           ||: |:|| :||  |||||||    : :|||  |
Db     95  RARSPHDLSLASLLGAGALRPPPGSRPVSQPCCRPTRYEAVSFMDVNSTWRTVDRLSATA   154

Qy    152  CGCGG  156
           ||| |
Db    155  CGCLG  159
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RESULT 10
US-09-220-920-40
; Sequence 40, Application US/09220920
; Patent No. US2002000226 9A1

; GENERAL INFORMATION:
; APPLICANT: Milbrandt, Jeffrey D.
; APPLICANT: Baloh, Robert H.
; TITLE OF INVENTION: Artemin, A No. US2002000226 9A1e1 Neurotrophic Factor
; FILE REFERENCE: 6029-7996
; CURRENT APPLICATION NUMBER: US/09/220,920
; CURRENT FILING DATE: 1998-12-24
; EARLIER APPLICATION NUMBER: 09/163,283
; EARLIER FILING DATE: 1998-09-29
; EARLIER APPLICATION NUMBER: 60/108,148
; EARLIER FILING DATE: 1998-11-12
; EARLIER APPLICATION NUMBER: 09/218,698
; EARLIER FILING DATE: 1998-12-22
; NUMBER OF SEQ ID NOS: 120
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 40
; LENGTH: 181
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-220-920-40

Query Match   29.1%; Score 244; DB 10; Length 181;
Best Local Similarity   44.8%; Pred. No. 2.2e-15;
Matches 56; Conservative 17; Mismatches 36; Indels 16; Gaps 3;

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           : :||||   : :| :||  |: |   |:|:: | | ||||: |:| |||| |||:: ||| |
Db     65  RAARAGG------PGSRARAAGARGCRLRSQLVPVRALGLGHRSDELVRFRFCSGSGSC-R  116

Qy    100  GARTOHGLALARLQGQG------RAHGGPCCRPTRYTDVAFLDDRHRWQRLPQLSAAA   151
           ||: |:|| :||  |||||||    : :|||  |
Db    117  RARSPHDLSLASLLGAGALRPPPGSRPVSQPCCRPTRYEAVSFMDVNSTWRTVDRLSATA  176

Qy    152  CGCGG  156
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Db    177  CGCLG  181
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RESULT 11
US-10-001-054-56
; Sequence 56, Application US/10001054
; Publication No. US2002019209A1
; GENERAL INFORMATION:
; APPLICANT: Genentech, Inc.
; APPLICANT: Baker, Kevin
; APPLICANT: Goddard, Audrey
; APPLICANT: Gurney, Austin
; APPLICANT: Hebert, Carolyn
; APPLICANT: Henzel, William
; APPLICANT: Kabakoff, Rhona
; APPLICANT: Shelton, David
; APPLICANT: Smith, Victoria
; APPLICANT: Watanabe, Colin
; APPLICANT: Wood, William
; TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR INHIBITING NEOPLASTIC
; TITLE OF INVENTION: CELL GROWTH
; FILE REFERENCE: P3034R1PCT
; CURRENT APPLICATION NUMBER: US/10/001,054
; CURRENT FILING DATE: 2001-11-30
; PRIOR APPLICATION NUMBER: 60/059114
; PRIOR FILING DATE: 1997-09-17
; PRIOR APPLICATION NUMBER: 60/079689
; PRIOR FILING DATE: 1998-03-27
; PRIOR APPLICATION NUMBER: 60/079920
; PRIOR FILING DATE: 1998-03-30
; PRIOR APPLICATION NUMBER: 60/082999
; PRIOR FILING DATE: 1998-04-24
; PRIOR APPLICATION NUMBER: 60/083545
; PRIOR FILING DATE: 1998-04-29
; PRIOR APPLICATION NUMBER: 60/085149
; PRIOR FILING DATE: 1998-05-12
; PRIOR APPLICATION NUMBER: 60/087607
; PRIOR FILING DATE: 1998-06-02

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              GenCore version 5.1.6
        Copyright (c) 1993 - 2003 Compugen Ltd.

OM protein - protein search, using sw model

Run on:      July 11, 2003, 12:45:38 ; Search time 18 Seconds
                                       (without alignments)
                                       833.165 Million cell updates/sec

Title:       US-09-220-617B-217
Perfect score: 839
Sequence:    1 MAVGKFLLGSLLLSLQLGQ.........DRHRWQRLPQLSAAACGCGG 156

Scoring table: BLOSUM62
             Gapop 10.0 , Gapext 0.5

Database :   PIR_73:*
             1: pir1:*
             2: pir2:*
             3: pir3:*
             4: pir4:*

Searched:    283224 seqs, 96134422 residues

Total number of hits satisfying chosen parameters:    283224

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
             Maximum Match 100%
             Listing first 45 summaries

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.
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SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	231.5	27.6	197	2	T47159	hypothetical prote
2	177.5	21.2	211	2	I49686	glial cell line-de
3	176.5	21.0	211	2	A37499	glial cell line-de
4	171	20.4	211	2	B37499	glial cell line-de
5	116.5	13.9	575	2	WFBOM	mullerian inhibiti
6	115	13.7	560	1	WFHUM	mullerian inhibiti
7	112	13.3	555	1	S20100	mullerian inhibiti
8	110.5	13.2	553	2	A42499	mullerian inhibiti
9	108.5	12.9	575	2	T11753	mullerian inhibiti
10	104	12.4	644	2	JC5119	anti-mullerian hor
11	99.5	11.9	352	2	JC2466	inhibin beta-C cha
12	99	11.8	373	2	PW0042	activin - fruit fl
13	87	10.4	352	2	S70580	activin beta C pre
14	85	10.1	373	2	T12063	xpsL protein - Xan
15	84	10.0	352	2	JC5366	activin beta C - m
16	84	10.0	402	2	A83398	probable MFS trans
17	83.5	10.0	115	2	PN0506	activin beta B-2 c
18	83.5	10.0	393	2	I50103	activin beta B - z
19	83.5	10.0	467	1	KCHUN	neutrophil collage
20	82	9.8	370	2	F95363	probable serine-py
21	81.5	9.7	207	2	S37618	vgr protein - rat
22	81.5	9.7	255	2	I48235	inhibin beta-B cha
23	81.5	9.7	411	2	B41398	inhibin beta-B cha
24	81.5	9.7	510	2	A54798	Vg-1-related prote
25	81	9.7	408	1	BMHU4	bone morphogenetic
26	81	9.7	455	2	A43918	TGF-beta-related p
27	80.5	9.6	115	2	PN0505	activin beta B-1 c
28	80.5	9.6	349	1	WFPGBB	inhibin beta-B cha
29	80.5	9.6	407	1	A40150	inhibin beta-B cha
30	80.5	9.6	408	2	S50899	betaB inhibin prec
31	80.5	9.6	513	1	BMHU6	bone morphogenetic
32	80	9.5	754	2	AE0614	probable competenc
33	79.5	9.5	309	2	JC5697	placental transfor
34	79.5	9.5	370	2	I51199	activin beta B sub
35	79	9.4	408	2	S58791	bone morphogenetic
36	79	9.4	426	2	JH0690	bone morphogenetic
37	78.5	9.4	412	2	A34939	transforming growt
38	78	9.3	865	2	B69074	probable formate d
39	77.5	9.2	357	2	A39364	GDF-1 embryonic gr
40	77.5	9.2	588	2	A26158	decapentaplegic pr
41	77	9.2	334	2	T36475	probable DNA-bindi
42	77	9.2	438	2	B87411	sensor histidine k
43	77	9.2	461	2	S52408	SPDVR1 protein - s
44	77	9.2	913	2	S20590	exo-alpha-sialidas
45	76	9.1	218	2	T03287	osmotin protein ho

ALIGNMENTS

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RESULT 1
T47159
hypothetical protein DKFzp762B0211.1 - human
C;Species: Homo sapiens (man)
C;Date: 20-Apr-2000 #sequence_revision 20-Apr-2000 #text_change 20-Apr-2000
C;Accession: T47159
R;Blum, H.; Bauersachs, S.; Mewes, H.W.; Well, B.; Wiemann, S.
submitted to the Protein Sequence Database, March 2000
A;Reference number: Z24379
A;Accession: T47159
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-197 <AAA>
A;Cross-references: EMBL:AL161995
A;Experimental source: adult melanoma (MeWo cell line); clone DKFZp762B0211
C;Genetics:
A;Note: DKFzp762B0211.1

Query Match             27.6%;  Score 231.5;  DB 2;  Length 197;
Best Local Similarity   39.1%;  Pred. No. 6.7e-15;
Matches    68;  Conservative  15;  Mismatches  56;  Indels  35;  Gaps  8;

Qy     12  LLLSLQLGQGWGP------------DAR----------GVPVADGEFSSEQVAKAGTWLGT  51
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Db     27  LLLSHRLGPALVPLHRLPRTLDARIARLAQYRALLQGAPDA---MELRELTPWAGRPPGP  83

Qy     52  HR---PLARLRRALSG--PCQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHG  106
           ||   |         |  ||||||||||:||||||||||:|||||||||||||||||||
Db     84  RRRAGPRRRARARLGARPCGLRELEVRVSELGLGYASDETVLFRYCAGACEAAARV-YD  142

Qy    107  LALARLQ------GQGRAHGGPCCRPTRYTD-VAFLDDRHRWQRLPQLSAAACGC  154
           |:|||:|      ||||||||||||||||| |: :: |||  |:|||
Db    143  LGLRLRLQRRRLRQRRLRRERVRAQPCCRPTAYEDEVSFLDAHSRYHTVHELSARECAC  196


RESULT 2
I49686
glial cell line-derived neeotrophic factor - mouse
C;Species: Mus musculus (house mouse)
C;Date: 02-Aug-1996 #sequence_revision 02-Aug-1996 #text_change 08-Oct-1999
C;Accession: I49686; JC6518
R;Watabe, K.; Fukuda, T.; Tanaka, J.; Honda, H.; Toyohara, K.; Sakai, O.
J. Neurosci. Res. 41, 279-290, 1995
A;Title: Spontaneously immortalized adult mouse Schwann cells secrete autocrine and p
A;Reference number: I49686; MUID:95379105; PMID:7650763
A;Accession: I49686
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-211 <RES>
A;Cross-references: GB:D49921; NID:g758584; PIDN:BAA08660.1; PID:g758585
R;Matsushita, N.; Fujita, Y.; Tanaka, M.; Nogatsu, T.; Kiuchi, K.
Gene 203, 149-157, 1997
```

A:Title: Cloning and structural organization of the gene encoding the mouse glial cell l
A:Reference number: JC6518; MUID:98086214; PMID:9426245
A:Accession: JC6518
A:Status: preliminary
A:Molecule type: nucleic acid
A:Residues: 1-211 <MAT>

Query Match   21.2%; Score 177.5; DB 2; Length 211;
Best Local Similarity 34.6%; Pred. No. 1.1e-09;
Matches 47; Conservative 22; Mismatches 58; Indels 9; Gaps 4;

Qy   24 PDARGVPVADGEFSSEQVAKAGGTWLGTHRPLARLRRALSGPCQLWSLTLSVAELGLGYA 83
             | | :|| : | :: |: | || || ::::| :||
Db   79 PDKQAAALPRRERNRQAAAASPENSRGKGR---RGQRGKNRGCVLTAIHLNVTDLGLGYE 135

Qy   84 SEEKVIFRYCAGSCPRGARTQHGLALARLQGQGRAH----GGPCCRPTRY-TDVAFLDDR 138
             ::||:|||||:|| :|| :| |||||| | | | || ||| || | :::|||
Db 136 TKEELIFRYCSGSC-ESAETMYDKILKNLSRSRRLTSDKVGQACCRPVAFDDDLSFLDDN 194

Qy 139 HRWQRLPQLSAAACGC 154
              | || :| |||
Db 195 LVYHILRKHSAKRCGC 210

RESULT 3
A37499
glial cell line-derived neurotrophic factor precursor - rat
N:Alternate names: GDNF
N:Contains: glial cell line-derived neurotrophic factor splice form GDNF555; glial cell
C:Species: Rattus norvegicus (Norway rat)
C:Date: 16-Feb-1994 #sequence_revision 16-Feb-1994 #text_change 05-Nov-1999
C:Accession: A37499; I67605; I53427; I58180; S61537
R:Lin, L.F.; Doherty, D.H.; Lile, J.D.; Bektesh, S.; Collins, F.
Science 260, 1130-1132, 1993
A:Title: GDNF: a glial cell line-derived neurotrophic factor for midbrain dopaminergic n
A:Reference number: A37499; MUID:93262463; PMID:8493557
A:Accession: A37499
A:Molecule type: mRNA; protein
A:Residues: 1-211 <LIN>
A:Cross-references: GB:L15305; NID:g310123; PIDN:AAA67909.1; PID:g310124
A:Experimental source: glial cell line B49
A:Note: sequence extracted from NCBI backbone (NCBIP:132083)
R:Springer, J.E.; Seeburger, J.L.; He, J.; Gabrea, A.; Blankenhorn, E.P.; Bergman, L.W.
Exp. Neurol. 131, 47-52, 1995
A:Title: cDNA sequence and differential mRNA regulation of two forms of glial cell line-
A:Reference number: I53427; MUID:95203379; PMID:7895811
A:Accession: I67605
A:Cross-references: GB:L15305; NID:g310123; PIDN:AAA67909.1; PID:g310124
A:Status: preliminary; translated from GB/EMBL/DDBJ
A:Molecule type: mRNA
A:Residues: 1-211 <LIN>
A:Residues: 1-24,'A',52-76,'5',78-89,'K',91-211 <SPR1>
A:Cross-references: GB:S75585; NID:g912790; PIDN:AAB33892.1; PID:g912791
A:Experimental source: Long-Evan rats; splice form GDNF555
A:Accession: I53427
A:Status: preliminary; translated from GB/EMBL/DDBJ
A:Molecule type: mRNA
A:Residues: 1-76,'5',78-89,'K',91-211 <SPR2>
A:Cross-references: GB:S75583; NID:g912788; PIDN:AAB33891.1; PID:g912789
R:Suter-Crazzolara, C.; Unsicker, K.
Neuroreport 5, 2486-2488, 1994
A:Title: GDNF is expressed in two forms in many tissues outside the CNS.
A:Reference number: I58180; MUID:95210610; PMID:7696586
A:Accession: I58180
A:Status: translated from GB/EMBL/DDBJ
A:Molecule type: mRNA
A:Residues: 1-24,'A',52-76 <SUT>
A:Cross-references: EMBL:X92495; NID:g1045219; PIDN:CAA63237.1; PID:g1045220
A:Experimental source: strain wistar; kidney
C:Genetics:
C:Gene: gdnf
C:Keywords: disulfide bond; glycoprotein; homodimer
F:1-211/Product: glial cell line-derived neurotrophic factor splice form GDNF633 #status
F:1-24,'A',52-211/Product: glial cell line-derived neurotrophic factor splice form GDNF5

F:1-19/Domain: signal sequence #status predicted <SIG>
F:20-77/Domain: propeptide #status predicted <PRO>
F:78-211/Product: glial cell line-derived neurotrophic factor #status experimental <M
F:126,162/Binding site: carbohydrate (Asn) (covalent) #status predicted

Query Match   21.0%; Score 176.5; DB 2; Length 211;
Best Local Similarity 34.6%; Pred. No. 1.3e-09;
Matches 47; Conservative 22; Mismatches 58; Indels 9; Gaps 4;

Qy   24 PDARGVPVADGEFSSEQVAKAGGTWLGTHRPLARLRRALSGPCQLWSLTLSVAELGLGYA 83
             | | :|| : | :: |: | || || ::::| :||
Db   79 PDKQAAALPRRERNRQAAAASPENSRGKGR---RGQRGKNRGCVLTAIHLNVTDLGLGYE 135

Qy   84 SEEKVIFRYCAGSCPRGARTQHGLALARLQGQGRAH----GGPCCRPTRY-TDVAFLDDR 138
             ::||:|||||:|| :|| :| |||||| | | | || ||| || | :::|||
Db 136 TKEELIFRYCSGSC-EAAETMYDKILKNLSRSRRLTSDKVGQACCRPVAFDDDLSFLDDS 194

Qy 139 HRWQRLPQLSAAACGC 154
              | || :| |||
Db 195 LVYHILRKHSAKRCGC 210

RESULT 4
B37499
glial cell line-derived neurotrophic factor precursor - human
N:Alternate names: GDNF
C:Species: Homo sapiens (man)
C:Date: 26-Aug-1999 #sequence_revision 26-Aug-1999 #text_change 26-Aug-1999
C:Accession: B37499
R:Lin, L.F.; Doherty, D.H.; Lile, J.D.; Bektesh, S.; Collins, F.
Science 260, 1130-1132, 1993
A:Title: GDNF: a glial cell line-derived neurotrophic factor for midbrain dopaminerg1
A:Reference number: A37499; MUID:93262463; PMID:8493557
A:Accession: B37499
A:Molecule type: DNA
A:Residues: 1-211 <LIN>
A:Cross-references: GB:L19063; GB:L15306; NID:g306761; PIDN:AAA67910.1; PID:g306763
A:Note: sequence extracted from NCBI backbone (NCBIP:132084)
F:1-19/Domain: signal sequence #status predicted <SIG>
F:20-77/Domain: propeptide #status predicted <PRO>
F:78-211/Product: glial cell line-derived neurotrophic factor #status predicted <MAT>
F:126,162/Binding site: carbohydrate (Asn) (covalent) #status predicted

Query Match   20.4%; Score 171; DB 2; Length 211;
Best Local Similarity 39.8%; Pred. No. 4.5e-09;
Matches 41; Conservative 17; Mismatches 39; Indels 6; Gaps 3;

Qy   57 RLRRALSGPCQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQGQG 116
             | :: | || || ::::| :|| :||:|||||:|| :|| :|| |||||| |
Db 109 RGQRGKNRGCVLTAIHLNVTDLGLGYETKEELIFRYCSGSCD-AAETTYDKILKNLSRNR 167

Qy 117 R----AHGGPCCRPTRY-TDVAFLDDRHRWQRLPQLSAAACGC 154
          | | ||| || | :::||| | || :| |||
Db 168 RLVSDKVGQACCRPIAFDDDLSFLDDNLVYHILRKHSAKRCGC 210

RESULT 5
WFBOM
mullerian inhibiting factor precursor - bovine
N:Alternate names: Mullerian inhibiting substance (MIS)
C:Species: Bos primigenius taurus (cattle)
C:Date: 13-Aug-1986 #sequence_revision 13-Aug-1986 #text_change 01-Dec-2000
C:Accession: A01398; B01398
R:Cate, R.L.; Mattaliano, R.J.; Hession, C.; Tizard, R.; Farber, N.M.; Cheung, A.; N1
an, K.L.; Ragin, R.C.; Manganaro, T.F.; MacLaughlin, D.T.; Donahoe, P.K.
Cell 45, 685-698, 1986
A:Title: Isolation of the bovine and human genes for Muellerian inhibiting substance
A:Reference number: A90879; MUID:86218082; PMID:3754790
A:Accession: A01398
A:Molecule type: DNA
A:Residues: 1-14 <CAi>
A:Experimental source: newborn calf testis, clones cbmis15 and pS21

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                GenCore version 5.1.6
        Copyright (c) 1993 - 2003 Compugen Ltd.

OM protein - protein search, using sw model

Run on:    July 11, 2003, 12:44:58 ; Search time 10 Seconds
                                     (without alignments)
                                     647.031 Million cell updates/sec

Title:          US-09-220-617B-217
Perfect score:  839
Sequence:       1 MAVGKFLLGSLLLSLQLGQ.........DRHRWQRLPQLSAAACGCGG 156

Scoring table:  BLOSUM62
                Gapop 10.0 , Gapext 0.5

Searched:       112892 seqs, 41476328 residues

Total number of hits satisfying chosen parameters:       112892

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
                 Maximum Match 100%
                 Listing first 45 summaries

Database :  SwissProt_40:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

                       SUMMARIES
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Result No.	Score	% Query Match	Match Length	DB	ID	Description
1	839	100.0	156	1	PSPN_HUMAN	O60542 homo sapien
2	530	63.2	156	1	PSPN_RAT	O70301 rattus norv
3	511	60.9	156	1	PSPN_MOUSE	O70300 mus musculu
4	231.5	27.6	197	1	NRTN_HUMAN	Q99748 homo sapien
5	226.5	27.0	195	1	NRTN_MOUSE	P97463 mus musculu
6	177.5	21.2	211	1	GDNF_MOUSE	P48540 mus musculu
7	176.5	21.0	211	1	GDNF_RAT	Q07731 rattus norv
8	171	20.4	211	1	GDNF_HUMAN	P39905 homo sapien
9	116.5	13.9	575	1	MIS_BOVIN	P03972 bos taurus
10	115	13.7	560	1	MIS_HUMAN	P03971 homo sapien
11	112.5	13.4	303	1	GDF7_RAT	Q92016 rattus norv
12	112	13.3	555	1	MIS_MOUSE	P27106 mus musculu
13	110.5	13.2	553	1	MIS_RAT	P49000 rattus norv
14	108.5	12.9	575	1	MIS_PIG	P79295 sus scrofa
15	99.5	11.9	352	1	IHBC_HUMAN	P55103 homo sapien
16	94.5	11.3	303	1	GDF7_MOUSE	Q92017 mus musculu
17	92	11.0	351	1	IHBC_RAT	Q9wuk5 rattus norv
18	87	10.4	352	1	IHBC_MOUSE	P55104 mus musculu
19	86.5	10.3	405	1	GDFB_MOUSE	Q9z1w4 mus musculu
20	86.5	10.3	407	1	GDFB_HUMAN	O95390 homo sapien
21	84.5	10.1	375	1	GDF8_PAPHA	O18828 papio hamad
22	84	10.0	501	1	CRT1_AGRAU	P54978 agrobacteri
23	83.5	10.0	467	1	MM08_HUMAN	P22894 homo sapien
24	82	9.8	329	1	IHA_CHICK	P43031 gallus gall
25	82	9.8	372	1	DECA_TRICA	Q26974 tribolium c
26	82	9.8	395	1	UNIV_STRPU	P48970 strongyloce
27	81.5	9.7	207	1	BMP6_RAT	Q04906 rattus norv
28	81.5	9.7	255	1	IHBB_MOUSE	Q04999 mus musculu
29	81.5	9.7	374	1	GDF8_BRARE	O42222 brachydanio
30	81.5	9.7	510	1	BMP6_MOUSE	P20722 mus musculu
31	81	9.7	408	1	60A_DROME	P12644 homo sapien
32	81	9.7	455	1	60A_DROME	P27091 drosophila
33	80.5	9.6	349	1	IHBB_PIG	P04088 sus scrofa
34	80.5	9.6	375	1	GDF8_BOVIN	O18836 bos taurus
35	80.5	9.6	375	1	GDF8_CHICK	O42220 gallus gall
36	80.5	9.6	375	1	GDF8_HUMAN	O14793 homo sapien
37	80.5	9.6	375	1	GDF8_MELGA	O42221 meleagris g
38	80.5	9.6	375	1	GDF8_PIG	O18831 sus scrofa
39	80.5	9.6	376	1	GDF8_MOUSE	O08689 mus musculu
40	80.5	9.6	376	1	GDF8_RAT	O35312 rattus norv
41	80.5	9.6	391	1	IHBB_CHICK	P27093 gallus gall
42	80.5	9.6	407	1	IHBB_HUMAN	P09529 homo sapien
43	80.5	9.6	408	1	IHBB_BOVIN	P42917 bos taurus
44	80.5	9.6	513	1	BMP6_HUMAN	P22004 homo sapien
45	79.5	9.5	308	1	GDFF_HUMAN	Q99988 homo sapien

```
                       ALIGNMENTS

RESULT 1
PSPN_HUMAN
ID   PSPN_HUMAN     STANDARD;      PRT;   156 AA.
AC   O60542;
DT   30-MAY-2000 (Rel. 39, Created)
DT   30-MAY-2000 (Rel. 39, Last sequence update)
DT   16-OCT-2001 (Rel. 40, Last annotation update)
DE   Persephin precursor (PSP).
GN   PSPN.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=98150950; PubMed=9491986;
RA   Milbrandt J., de Sauvage F.J., Fahrner T.J., Baloh R.H., Leitner M.L.,
RA   Tansey M.G., Lampe P.A., Heuckeroth R.O., Kotzbauer P.T.,
RA   Simburger K.S., Golden J.P., Davies J.A., Vejsada R., Kato A.C.,
RA   Hynes M., Sherman D., Nishimura M., Wang L.-C., Vandlen R., Moffat B.,
RA   Klein R.D., Poulsen K., Gray C., Garces A., Henderson C.E.,
RA   Phillips H.S., Johnson E.M.;
RT   "Persephin, a novel neurotrophic factor related to GDNF and
RT   neurturin.";
RL   Neuron 20:245-253(1998).
CC   -!- FUNCTION: EXHIBITS NEUROTROPHIC ACTIVITY ON MESENCEPHALIC
CC       DOPAMINERGIC AND MOTOR NEURONS.
CC   -!- SUBUNIT: HOMODIMER; DISULFIDE-LINKED (BY SIMILARITY).
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: BELONGS TO THE TGF-BETA FAMILY. GDNF SUBFAMILY.
CC   --------------------------------------------------
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CC   --------------------------------------------------
DR   EMBL; AF040962; AAC39640.1; -.
DR   HSSP; Q07731; 1AGQ.
DR   Genew; HGNC:9579; PSPN.
DR   MIM; 602921; -.
DR   InterPro; IPR001839; TGFb.
DR   Pfam; PF00019; TGF-beta; 1.
DR   SMART; SM00204; TGFB; 1.
DR   PROSITE; PS00250; TGF_BETA_1; FALSE_NEG.
KW   Growth factor; Signal.
FT   SIGNAL        1     21
FT   CHAIN        22    156       PERSEPHIN.
FT   DISULFID     66    124       BY SIMILARITY.
FT   DISULFID     93    152       BY SIMILARITY.
FT   DISULFID     97    154       BY SIMILARITY.
FT   DISULFID    123    123       INTERCHAIN (BY SIMILARITY).
SQ   SEQUENCE   156 AA;   16600 MW;  6547751653A7044A CRC64;
```

FT   SIGNAL   1   21   POTENTIAL.
FT   CHAIN   22   156   PERSEPHIN.
FT   DISULFID   66   124   BY SIMILARITY.
FT   DISULFID   93   152   BY SIMILARITY.
FT   DISULFID   97   154   BY SIMILARITY.
FT   DISULFID   123   123   INTERCHAIN (BY SIMILARITY).
SQ   SEQUENCE   156 AA; 17063 MW; 9631941CC69B00B0 CRC64;

Query Match   63.2%; Score 530; DB 1; Length 156;
Best Local Similarity   66.0%; Pred. No. 2.2e-44;
Matches   105; Conservative   13; Mismatches   35; Indels   6; Gaps   3;

Qy   1 MAVGKFLLGSLLLLSLQLGQGWGPDARGVPVADGEFSSEQVAKAGGTW---LGTHRPLAR 57
         || : ||||| |||:|||| |||::::|| | |: || : :: | ||
Db   1 MAAGRLRLFLLLLSLHLGLGWVLDLQEAPAAD-ELSSGKMAETGRTWKPHQGNNN--VR 57

Qy   58 LRRALSGPCQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQGGQGR 117
         | ||:||||| |||:|| ||||||||||||||||||||||||||||||:|||||||||||
Db   58 LPRALPGLCRLWSLTLPVAELGLGYASEEKIIFRYCAGSCPQEVRTQHSLVLARLRGGGR 117

Qy 118 AHGGPCCRPTRYTDVAFLDDRHRWQRLPQLSAAACGCGG 156
         ||| ||||||:|||||| | ||||||||||||||||||
Db 118 AHGRPCCQPTSYADVTFLDDHHHWQQLPQLSAAACGCGG 156

RESULT 3
PSPN_MOUSE
ID   PSPN_MOUSE   STANDARD;   PRT;   156 AA.
AC   O70300;
DT   30-MAY-2000 (Rel. 39, Created)
DT   30-MAY-2000 (Rel. 39, Last sequence update)
DT   16-OCT-2001 (Rel. 40, Last annotation update)
DE   Persephin precursor (PSP).
GN   PSPN.
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   SEQUENCE FROM N.A.
RC   STRAIN=129/SvJ;
RX   MEDLINE=98150950; PubMed=9491986;
RA   Milbrandt J., de Sauvage F.J., Fahrner T.J., Baloh R.H., Leitner M.L.,
RA   Tansey M.G., Lampe P.A., Heuckeroth R.O., Kotzbauer P.T.,
RA   Simburger K.S., Golden J.P., Davies J.A., Vejsada R., Kato A.C.,
RA   Hynes M., Sherman D., Nishimura M., Wang L.-C., Vandlen R., Moffat B.,
RA   Klein R.D., Poulsen K., Gray C., Garces A., Henderson C.E.,
RA   Phillips H.S., Johnson E.M.;
RT   "Persephin, a novel neurotrophic factor related to GDNF and
RT   neurturin.";
RL   Neuron 20:245-253(1998).
CC   -!- FUNCTION: EXHIBITS NEUROTROPHIC ACTIVITY ON MESENCEPHALIC
CC   DOPAMINERGIC AND MOTOR NEURONS.
CC   -!- SUBUNIT: HOMODIMER; DISULFIDE-LINKED (BY SIMILARITY).
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: BELONGS TO THE TGF-BETA FAMILY. GDNF SUBFAMILY.
CC   --
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CC   --
DR   EMBL; AF040960; AAC40057.1; -.
DR   HSSP; Q07731; 1AGQ.
DR   MGD; MGI:1201684; Pspn.
DR   InterPro; IPR001839; TGFb.
DR   Pfam; PF00019; TGF-beta; 1.
DR   SMART; SM00204; TGFB; 1.
DR   PROSITE; PS00250; TGF_BETA_1; FALSE_NEG.
KW   Growth factor; Signal.

Query Match   100.0%; Score 839; DB 1; Length 156;
Best Local Similarity 100.0%; Pred. No. 3.2e-74;
Matches   156; Conservative   0; Mismatches   0; Indels   0; Gaps   0;

Qy   1 MAVGKFLLGSLLLLSLQLGQGWGPDARGVPVADGEFSSEQVAKAGGTWLGTHRPLARLRR 60
         ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db   1 MAVGKFLLGSLLLLSLQLGQGWGPDARGVPVADGEFSSEQVAKAGGTWLGTHRPLARLRR 60

Qy   61 ALSGPCQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQGGRAHG 120
         ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db   61 ALSGPCQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQGGRAHG 120

Qy 121 GPCCRPTRYTDVAFLDDRHRWQRLPQLSAAACGCGG 156
         ||||||||||||||||||||||||||||||||||||
Db 121 GPCCRPTRYTDVAFLDDRHRWQRLPQLSAAACGCGG 156

RESULT 2
PSPN_RAT
ID   PSPN_RAT   STANDARD;   PRT;   156 AA.
AC   O70301;
DT   30-MAY-2000 (Rel. 39, Created)
DT   30-MAY-2000 (Rel. 39, Last sequence update)
DT   16-OCT-2001 (Rel. 40, Last annotation update)
DE   Persephin precursor (PSP).
GN   PSPN.
OS   Rattus norvegicus (Rat).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX   NCBI_TaxID=10116;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=98150950; PubMed=9491986;
RA   Milbrandt J., de Sauvage F.J., Fahrner T.J., Baloh R.H., Leitner M.L.,
RA   Tansey M.G., Lampe P.A., Heuckeroth R.O., Kotzbauer P.T.,
RA   Simburger K.S., Golden J.P., Davies J.A., Vejsada R., Kato A.C.,
RA   Hynes M., Sherman D., Nishimura M., Wang L.-C., Vandlen R., Moffat B.,
RA   Klein R.D., Poulsen K., Gray C., Garces A., Henderson C.E.,
RA   Phillips H.S., Johnson E.M.;
RT   "Persephin, a novel neurotrophic factor related to GDNF and
RT   neurturin.";
RL   Neuron 20:245-253(1998).
RN   [2]
RP   SEQUENCE OF 1-78 FROM N.A.
RC   STRAIN=Sprague-Dawley; TISSUE=Pons;
RX   MEDLINE=98374044; PubMed=9710270;
RA   Jaszai J., Farkas L.M., Galter D., Reuss B., Strelau J., Unsicker K.,
RA   Krieglstein K.;
RT   "GDNF-related factor persephin is widely distributed throughout the
RT   nervous system.";
RL   J. Neurosci. Res. 53:494-501(1998).
CC   -!- FUNCTION: EXHIBITS NEUROTROPHIC ACTIVITY ON MESENCEPHALIC
CC   DOPAMINERGIC AND MOTOR NEURONS.
CC   -!- SUBUNIT: HOMODIMER; DISULFIDE-LINKED (BY SIMILARITY).
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- SIMILARITY: BELONGS TO THE TGF-BETA FAMILY. GDNF SUBFAMILY.
CC   --
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CC   or send an email to license@isb-sib.ch).
CC   --
DR   EMBL; AF040961; AAC40058.1; -.
DR   EMBL; AJ005169; CAA06410.1; -.
DR   HSSP; Q07731; 1AGQ.
DR   InterPro; IPR001839; TGFb.
DR   Pfam; PF00019; TGF-beta; 1.
DR   SMART; SM00204; TGFB; 1.
DR   PROSITE; PS00250; TGF_BETA_1; FALSE_NEG.
KW   Growth factor; Signal.

```
FT   SIGNAL        1     21       POTENTIAL.
FT   CHAIN        22    156       PERSEPHIN.
FT   DISULFID     66    124       BY SIMILARITY.
FT   DISULFID     93    152       BY SIMILARITY.
FT   DISULFID     97    154       BY SIMILARITY.
FT   DISULFID    123    123       INTERCHAIN (BY SIMILARITY).
SQ   SEQUENCE   156 AA;  17030 MW;  7DC6DD98132E041B CRC64;

Query Match             60.9%;  Score 511;  DB 1;  Length 156;
Best Local Similarity   64.2%;  Pred. No. 1.5e-42;
Matches   102;  Conservative  16;  Mismatches  35;  Indels   6;  Gaps   3;

Qy    1 MAVGKFLLGSLLLLSLQLGQGWGPDARGVPVADGEFSSEQVAKAGGTWL--GTHRPLAR  57
          ||:: |||||  :|  |||||| ||  :||  : |||  :  :|:|   |||  :  |  :
Db    1 MAAGRLRILCLLLLSLHPSLGWVLDLQEASVAD-KLSFGKMAETRGTWTPHQGNNH--VR  57

Qy   58 LRRALSGPCQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLALARLQGQGR 117
          | |||:| |:||||| ||:||||||||||||||||||||| ||||:: :|| : || |
Db   58 LPRALAGSCRIWSLTLPVAELGLGYASEEKVIFRYCAGSCPQEARTQHSLVLARLRGRGR 117

Qy  118 AHGGPCCRPTRYTDVAFLDDRHRWQRLPQLSAAACGCGG 156
          ||| ||:|| || |:||||:|:||||:|:||||||||||
Db  118 AHGRPCCQPPTSYADVTFLDDQHHWQQLPQLSAAACGCGG 156

RESULT 4
NRTN_HUMAN
ID   NRTN_HUMAN     STANDARD;      PRT;    197 AA.
AC   Q99748;
DT   01-NOV-1997 (Rel. 35, Created)
DT   01-NOV-1997 (Rel. 35, Last sequence update)
DT   16-OCT-2001 (Rel. 40, Last annotation update)
DE   Neurturin precursor.
GN   NRTN.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=97100947; PubMed=8945474;
RA   Kotzbauer P.T., Lampe P.A., Heuckeroth R.O., Golden J.P.,
RA   Creedon D.J., Johnson E.M. Jr., Milbrandt J.;
RT   "Neurturin, a relative of glial-cell-line-derived neurotrophic
RT   factor.";
RL   Nature 384:467-470(1996).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   TISSUE=Melanoma;
RA   Blum H., Bauersachs S., Mewes H.-W., Weil B., Wiemann S.;
RL   Submitted (MAR-2000) to the EMBL/GenBank/DDBJ databases.
RN   [3]
RP   VARIANT HSCR SER-96.
RC   TISSUE=Peripheral blood lymphocytes;
RX   MEDLINE=98367034; PubMed=9700200;
RA   Doray B., Salomon R., Amiel J., Pelet A., Touraine R., Billaud M.,
RA   Attie T., Bachy B., Munnich A., Lyonnet S.;
RT   "Mutation of the RET ligand, neurturin, supports multigenic
RT   inheritance in Hirschsprung disease.";
RL   Hum. Mol. Genet. 7:1449-1452(1998).
CC   -!- FUNCTION: SUPPORTS THE SURVIVAL OF SYMPATHETIC NEURONS IN CULTURE.
CC       MAY REGULATE THE DEVELOPMENT AND MAINTENANCE OF THE CNS. MIGHT
CC       CONTROL THE SIZE OF NON-NEURONAL CELL POPULATION SUCH AS
CC       HAEMOPOIETIC CELLS.
CC   -!- SUBUNIT: HOMODIMER; DISULFIDE-LINKED.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- DISEASE: IN ASSOCIATION WITH MUTATIONS OF RET GENE AND POSSIBLY
CC       OTHER LOCI, IT IS INVOLVED IN HIRSCHSPRUNG'S DISEASE (HSCR). THIS
CC       GENETIC DISORDER OF NEURAL CREST DEVELOPMENT IS CHARACTERIZED BY
CC       THE ABSENCE OF INTRAMURAL GANGLION CELLS IN THE HINDGUT; OFTEN
CC       RESULTING IN INTESTINAL OBSTRUCTION.
CC   -!- SIMILARITY: BELONGS TO THE TGF-BETA FAMILY. GDNF SUBFAMILY.
```

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DR   EMBL; U78110; AAC50898.1; -.
DR   EMBL; AL161995; CAB82327.1; -.
DR   HSSP; Q07731; 1AGQ.
DR   Genew; HGNC:8007; NRTN.
DR   MIM; 602018; -.
DR   MIM; 142623; -.
DR   InterPro; IPR002400; GF_cysknot.
DR   InterPro; IPR001839; TGFb.
DR   Pfam; PF00019; TGF-beta; 1.
DR   PRINTS; PR00438; GFCYSKNOT.
DR   SMART; SM00204; TGFB; 1.
DR   PROSITE; PS00250; TGF_BETA_1; FALSE_NEG.
KW   Growth factor; Signal; Disease mutation; Hirschsprung disease.
FT   SIGNAL        1     19       POTENTIAL.
FT   PROPEP       20     95       BY SIMILARITY.
FT   CHAIN        96    197       NEURTURIN.
FT   DISULFID    103    165       BY SIMILARITY.
FT   DISULFID    130    194       BY SIMILARITY.
FT   DISULFID    134    196       BY SIMILARITY.
FT   DISULFID    164    164       INTERCHAIN (BY SIMILARITY).
FT   VARIANT      96     96       A -> S (IN HSCR; ASSOCIATED TO A RET
FT                                MUTATION; INCOMPLETE PENETRANCE).
FT                                /FTId=VAR_009498.
SQ   SEQUENCE   197 AA;  22405 MW;  91AFAC8C3F8971FD CRC64;

Query Match             27.6%;  Score 231.5;  DB 1;  Length 197;
Best Local Similarity   39.1%;  Pred. No. 1.9e-15;
Matches    68;  Conservative  15;  Mismatches  56;  Indels  35;  Gaps   8;

Qy   12 LLLSLQLGQGWGP----------DAR--------GVPVADGEFSSEQVAKAGGTWLGT  51
          ||||| |||| ||            :||
Db   27 LLLSHRLGPALVPLHRLPRTLDARIARLAQYRALLQGAPDA--MELRELTPWAGRPPGP  83

Qy   52 HR---PLARLRRALSG--PCQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHG 106
          ||   :|||| ||:|    ||:||||| |:||||||||||||||||| |||||| || :
Db   84 RRRAGPRRRARRARLGARPCGLRELEVRVSELGLGYASDETVLFRYCAGACEAAARV-YD 142

Qy  107 LALARLQ----GQGRAHGGPCCRPTRYTD-VAFLDDRHRWQRLPQLSAAACGC 154
          |||| :||    :|:  :| ||||||  |:||| | :||| :::| |::|||||||
Db  143 LGLRLRLQRRRLRRERVRAQPCCRPTAYEDEVSFLDAHSRYHTVHELSARECAC 196

RESULT 5
NRTN_MOUSE
ID   NRTN_MOUSE     STANDARD;      PRT;    195 AA.
AC   P97463;
DT   01-NOV-1997 (Rel. 35, Created)
DT   01-NOV-1997 (Rel. 35, Last sequence update)
DT   16-OCT-2001 (Rel. 40, Last annotation update)
DE   Neurturin precursor.
GN   NRTN.
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   SEQUENCE FROM N.A., AND SEQUENCE OF 96-110; 127-135; 155-177 AND
RP   181-190.
RX   MEDLINE=97100947; PubMed=8945474;
RA   Kotzbauer P.T., Lampe P.A., Heuckeroth R.O., Golden J.P.,
RA   Creedon D.J., Johnson E.M. Jr., Milbrandt J.;
RT   "Neurturin, a relative of glial-cell-line-derived neurotrophic
RT   factor.";
RL   Nature 384:467-470(1996).
CC   -!- FUNCTION: SUPPORTS THE SURVIVAL OF SYMPATHETIC NEURONS IN CULTURE.
```

```
CC       MAY REGULATE THE DEVELOPMENT AND MAINTENANCE OF THE CNS. MIGHT
CC       CONTROL THE SIZE OF NON-NEURONAL CELL POPULATION SUCH AS
CC       HAEMOPOIETIC CELLS.
CC   -!- SUBUNIT: HOMODIMER; DISULFIDE-LINKED.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- TISSUE SPECIFICITY: WIDESPREAD DISTRIBUTION.
CC   -!- SIMILARITY: BELONGS TO THE TGF-BETA FAMILY. GDNF SUBFAMILY.
CC   -------------------------------------------------------------
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CC   or send an email to license@isb-sib.ch).
CC   -------------------------------------------------------------
DR   EMBL; U78109; AAC52954.1; -.
DR   HSSP; Q07731; 1AGQ.
DR   MGD; MGI:108417; Nrtn.
DR   InterPro; IPR002400; GF_cysknot.
DR   InterPro; IPR001839; TGFb.
DR   Pfam; PF00019; TGF-beta; 1.
DR   PRINTS; PR00438; GFCYSKNOT.
DR   SMART; SM00204; TGFB; 1.
DR   PROSITE; PS00250; TGF_BETA_1; FALSE_NEG.
KW   Growth factor; Signal.
FT   SIGNAL        1     19       POTENTIAL.
FT   PROPEP       20     95       BY SIMILARITY.
FT   CHAIN        96    195       NEURTURIN.
FT   DISULFID    101    163       BY SIMILARITY.
FT   DISULFID    128    192       BY SIMILARITY.
FT   DISULFID    132    194       BY SIMILARITY.
FT   DISULFID    162    162       INTERCHAIN (BY SIMILARITY).
SQ   SEQUENCE   195 AA;  22219 MW;  ABE21BB35D417448 CRC64;

Query Match            27.0%;  Score 226.5;  DB 1;  Length 195;
Best Local Similarity  39.5%;  Pred. No. 5.7e-15;
Matches   68;  Conservative  14;  Mismatches  57;  Indels  33;  Gaps  8;

Qy      12 LLLSLQLGQGWGP------DAR--------GVPVA-DGEFSSEQVAKAGGTWLG 50
           |||  ||  |                       ||  :|::
Db      27 LLLGHRLGPALAPLRRPPRTLDARIARLAQYRALLQGAPDAVELRELSPWAARIPGP--- 83

Qy      51 THRPLARLRRALSG--PCQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPRGARTQHGLA 108
           ||  :| ||| ||    | ||:||||:|||||| ::|::|||||:||||  |:
Db      84 RRRAGPRRRARPGARPCGLRELEVRVSELGGYTSDETVLFRYCAGCEAAIRI-YDLG 142

Qy     109 LARLQ-----GGQRAHGGPCCRPTRYTD-VAFLDDRHRWQRLPQLSAAACGC 154
           | |:     :  ||  |||||| | | :  |||:|  |: :|  || |
Db     143 LRRLRQRRRVRRERARAHPCCRPTAYEDEVSFLDVHSRYHTIQELSARECAC 194


RESULT 6
GDNF_MOUSE
ID   GDNF_MOUSE     STANDARD;     PRT;   211 AA.
AC   P48540; P97919; O09058; P97920; P70446;
DT   01-FEB-1996 (Rel. 33, Created)
DT   01-FEB-1996 (Rel. 33, Last sequence update)
DT   16-OCT-2001 (Rel. 40, Last annotation update)
DE   Glial cell line-derived neurotrophic factor precursor.
GN   GDNF.
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   SEQUENCE FROM N.A., AND ALTERNATIVE SPLICING.
RC   STRAIN=C57BL/10J; TISSUE=Brain;
RA   Wang F., Too H.P.;
RL   Submitted (OCT-1995) to the EMBL/GenBank/DDBJ databases.
RN   [2]
RP   SEQUENCE FROM N.A.
RC   STRAIN=ICR; TISSUE=Dorsal root ganglion;
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RX   MEDLINE=95379105; PubMed=7650763;
RA   Watabe K., Fukuda T., Tanaka J., Honda H., Toyohara K., Sakai O.;
RT   "Spontaneously immortalized adult mouse Schwann cells secrete
RT   autocrine and paracrine growth-promoting activities.";
RL   J. Neurosci. Res. 41:279-290(1995).
RN   [3]
RP   SEQUENCE FROM N.A.
RC   STRAIN=129/SvJ;
RA   Hellmich H., Kos L., Cho E.S., Mahon K.A., Zimmer A.;
RL   Submitted (OCT-1995) to the EMBL/GenBank/DDBJ databases.
RN   [4]
RP   SEQUENCE FROM N.A.
RA   Matsushita N., Fujita Y., Nagatsu T., Kiuchi K.;
RL   Submitted (OCT-1996) to the EMBL/GenBank/DDBJ databases.
CC   -!- FUNCTION: NEUROTROPHIC FACTOR THAT ENHANCES SURVIVAL AND
CC       MORPHOLOGICAL DIFFERENTIATION OF DOPAMINERGIC NEURONS AND
CC       INCREASES THEIR HIGH-AFFINITY DOPAMINE UPTAKE.
CC   -!- SUBUNIT: HOMODIMER; DISULFIDE-LINKED.
CC   -!- SUBCELLULAR LOCATION: Secreted.
CC   -!- ALTERNATIVE PRODUCTS: 2 ISOFORMS; 1 (SHOWN HERE) AND 2; ARE
CC       PRODUCED BY ALTERNATIVE SPLICING.
CC   -!- SIMILARITY: BELONGS TO THE TGF-BETA FAMILY. GDNF SUBFAMILY.
CC   -------------------------------------------------------------
CC   This SWISS-PROT entry is copyright. It is produced through a collaboration
CC   between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC   the European Bioinformatics Institute. There are no restrictions on its
CC   use by non-profit institutions as long as its content is in no way
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CC   entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC   or send an email to license@isb-sib.ch).
CC   -------------------------------------------------------------
DR   EMBL; U37459; AAB18672.1; ALT_INIT.
DR   EMBL; U66195; AAB07463.1; ALT_INIT.
DR   EMBL; U75532; AAB18343.1; ALT_INIT.
DR   EMBL; D49921; BAA08660.1; -.
DR   EMBL; U36449; AAB52953.1; -.
DR   EMBL; D88264; BAA13566.1; ALT_INIT.
DR   EMBL; D88352; BAB12221.1; -.
DR   EMBL; D88351; BAB12221.1; JOINED.
DR   HSSP; Q07731; 1AGQ.
DR   MGD; MGI:107430; Gdnf.
DR   InterPro; IPR001839; TGFb.
DR   Pfam; PF00019; TGF-beta; 1.
DR   SMART; SM00204; TGFB; 1.
DR   PROSITE; PS00250; TGF_BETA_1; FALSE_NEG.
KW   Growth factor; Glycoprotein; Signal; Alternative splicing.
FT   SIGNAL        1     19       POTENTIAL.
FT   PROPEP       20     77       BY SIMILARITY.
FT   CHAIN        78    211       GLIAL CELL LINE-DERIVED NEUROTROPHIC
FT                               FACTOR.
FT   DISULFID    118    179       BY SIMILARITY.
FT   DISULFID    145    208       BY SIMILARITY.
FT   DISULFID    149    210       BY SIMILARITY.
FT   DISULFID    178    178       INTERCHAIN (BY SIMILARITY).
FT   CARBOHYD    126    126       N-LINKED (GLCNAC...) (POTENTIAL).
FT   CARBOHYD    162    162       N-LINKED (GLCNAC...) (POTENTIAL).
FT   VARSPLIC     25     51       GKRLLEAPAEDHSLGHRRVPFALTSDS -> A (IN
FT                               ISOFORM 2).
SQ   SEQUENCE   211 AA;  23662 MW;  B6731C767A3A95B7 CRC64;

Query Match            21.2%;  Score 177.5;  DB 1;  Length 211;
Best Local Similarity  34.6%;  Pred. No. 3.3e-10;
Matches   47;  Conservative  22;  Mismatches  58;  Indels  9;  Gaps  4;

Qy      24 PDARGVPVADGEFSSEQVAKAGGTWLGTHRPLARLRRALSGPCQLWSLTLSVAELGLGYA 83
           ||  :|:  | :|||:  ||.|| ||.: : ::||:|.|||||
Db      79 PDKQAAALPRRERNRQAAAASPENSRGKGR---RGQRGKNRGCVLTAIHLNVTDLGLGYE 135

Qy      84 SEEKVIFRYCAGSCPRGARTQHGLALARLQGQGRAH----GGPCCRPTRY-TDVAFLDDR 138
           ::|:||||:||||  |: ||||  |: |||| |: |||: | :|||| | :|||||
Db     136 TKEELIFRYCSGSC-ESAETMYDKILKNLSRSRRLTSDKVGQACCRPVAFDDDLSFLDDN 194

Qy     139 HRWQRLPQLSAAACGC 154
```

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: July 11, 2003, 12:45:18 ; Search time 29 Seconds
                                    (without alignments)
                                    1108.391 Million cell updates/sec

Title: US-09-220-617B-217
Perfect score: 839
Sequence: 1 MAVGKFLLGSLLLLSLQLGQ.........DRHRWQRLPQLSAAACGCGG 156

Scoring table: BLOSUM62
                Gapop 10.0 , Gapext 0.5

earched: 671580 seqs, 206047115 residues

Total number of hits satisfying chosen parameters: 671580

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
                 Maximum Match 100%
                 Listing first 45 summaries

Database :   SPTREMBL_21:*
          1:    sp_archea:*
          2:    sp_bacteria:*
          3:    sp_fungi:*
          4:    sp_human:*
          5:    sp_invertebrate:*
          6:    sp_mammal:*
          7:    sp_mhc:*
          8:    sp_organelle:*
          9:    sp_phage:*
         10:    sp_plant:*
         11:    sp_rodent:*
         12:    sp_virus:*
         13:    sp_vertebrate:*
         14:    sp_unclassified:*
         15:    sp_rvirus:*
         16:    sp_bacteriap:*
         17:    sp_archeap:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result. No.	Score	Query % Match	Length	DB	ID	Description
1	244	29.1	220	4	O96030	O96030 homo sapien
2	244	29.1	237	4	O95441	O95441 homo sapien
3	241.5	28.8	224	11	Q9Z0L2	Q9z0l2 mus musculu
4	189.5	22.6	161	11	Q9QZG0	Q9qzg0 rattus norv
5	177	21.1	160	6	O97685	O97685 macaca mula
6	171	20.4	133	4	Q9UD32	Q9ud32 homo sapien
7	171	20.4	185	4	Q95L44	Q95l44 homo sapien
8	158	18.8	143	13	Q8QGE9	Q8qge9 nipponia ni
9	157	18.7	182	13	Q9IAM2	Q9iam2 gallus gall
10	157	18.7	215	13	Q9IAM3	Q9iam3 gallus gall
11	154.5	18.4	199	13	Q8R485	Q8r485 rattus norv
12	151.5	18.1	235	13	Q98TU0	Q98tu0 brachydanio
13	143.5	17.1	125	13	Q9QZG3	Q9qzg3 rattus norv
14	107	12.8	644	13	Q90974	Q90974 gallus gall
15	99	11.8	373	5	O61643	O61643 drosophila
16	99	11.8	678	5	Q8WR60	Q8wr60 drosophila
17	95.5	11.4	36	11	Q9JMC0	Q9jmc0 rattus norv
18	91.5	10.9	359	13	Q8QG53	Q8qg53 sparus aura
19	91.5	10.9	373	13	Q90W17	Q90w17 salmo salar
20	90.5	10.8	373	13	Q98UB3	Q98ub3 salvelinus
21	90.5	10.8	373	13	Q9DD18	Q9dd18 salmo solar
22	90.5	10.8	373	13	Q902D2	Q902d2 oncorhynchu
23	90.5	10.7	373	13	Q902D1	Q902d1 oncorhynchu
24	89.5	10.7	377	13	Q98TB3	Q98tb3 morone chry
25	89	10.6	385	13	Q90W05	Q90w05 sparus aura
26	86	10.3	157	9	Q94MU8	Q94mu8 bacteriopha
27	85	10.1	443	10	Q9S751	Q9s751 oryza sativ
28	84.5	10.1	364	13	Q9PVK1	Q9pvk1 gallus gall
29	84.5	10.1	376	13	Q98TB4	Q98tb4 oreochromis
30	84.5	10.1	376	13	Q90WC9	Q90wc9 morone saxa
31	84.5	10.1	376	13	Q90WC8	Q90wc8 morone amer
32	84.5	10.1	395	13	Q9PWG6	Q9pwg6 anguilla ja
33	84	10.0	402	16	Q9I2B6	Q9i2b6 pseudomonas
34	83.5	10.0	115	13	Q9DGF1	Q9dgf1 cyprinus ca
35	83.5	10.0	115	13	Q9DGE9	Q9dge9 cyprinus ca
36	83.5	10.0	115	13	Q9DGE6	Q9dge6 oryzias lat
37	83.5	10.0	138	13	Q9W6T9	Q9w6t9 brachydanio
38	83.5	10.0	376	13	Q90W06	Q90w06 umbrina cir
39	83.5	10.0	393	13	Q90261	Q90261 brachydanio
40	82.5	9.8	305	5	Q9VNT8	Q9vnt8 drosophila
41	82.5	9.8	389	13	Q90YY0	Q90yy0 ictalurus p
42	82.5	9.8	4498	2	Q93HE5	Q93he5 streptomyce
43	82	9.8	370	16	Q92YP9	Q92yp9 rhizobium m
44	82	9.8	1014	2	Q9Z4B7	Q9z4b7 shigella so
45	82	9.8	1014	2	Q9R2G9	Q9r2g9 salmonella

ALIGNMENTS

RESULT 1
O96030
ID   O96030   PRELIMINARY;   PRT;   220 AA.
AC   O96030;
DT   01-MAY-1999 (TrEMBLrel. 10, Created)
DT   01-MAY-1999 (TrEMBLrel. 10, Last sequence update)
DT   01-MAR-2002 (TrEMBLrel. 20, Last annotation update)
DE   ARTEMIN.
GN   ARTN OR EVN.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=99098192; PubMed=9983723;
RA   Baloh R.H., Tansey M.G., Lampe P.A., Fahrner T.J., Enomoto H.,
RA   Simburger K.S., Leitner M.L., Araki T., Johnson E.M.Jr.,
RA   Milbrandt J.;
RT   "Artemin, a novel member of the GDNF ligand family, supports
RT   peripheral and central neurons and signals through the GFRalpha3-RET
RT   receptor complex.";
RL   Neuron 21:1291-1302(1998).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   TISSUE=BRAIN;
RA   Hansen C., Blom N., Johansen T.E.;
RT   "Neublastin a novel member of the GDNF ligand family.";
RL   Submitted (JAN-1999) to the EMBL/GenBank/DDBJ databases.
RN   [3]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=20050601; PubMed=10583383;
RA   Masure S., Geerts H., Cik M., Hoefnagel E., Van Den Kieboom G.,
RA   Tuytelaars A., Harris S., Lesage A.S., Leysen J.E., van der Helm L.,
RA   Verhasselt P., Yon J., Gordon R.D.;
RT   "Enovin, a member of the glial cell-line-derived neurotrophic factor
RT   (GDNF) family with growth promoting activity on neuronal cells.";
RT   Existence and tissue-specific expression of different splice
RT   variants.";

RL   Eur. J. Biochem. 266:892-902(1999).
CC   -!- SIMILARITY: BELONGS TO THE TGF-BETA FAMILY.
DR   EMBL; AF115765; AAD13109.1; -.
DR   EMBL; AF109401; AAC98690.1; -.
DR   EMBL; AF120274; AAD21075.1; -.
DR   EMBL; AJ245528; CAB52396.1; -.
DR   HSSP; Q07731; 1AGQ.
DR   InterPro; IPR001839; TGFb.
DR   Pfam; PF00019; TGF-beta; 1.
DR   SMART; SM00204; TGFB; 1.
KW   Glycoprotein; Signal.
SQ   SEQUENCE   220 AA; 22906 MW; C47754B19AADCFBB CRC64;

Query Match   29.1%; Score 244; DB 4; Length 220;
Best Local Similarity   44.8%; Pred. No. 1.8e-16;
Matches   56; Conservative   17; Mismatches   36; Indels   16; Gaps   3;

Qy   40 QVAKAGGTWLGTHRPLARLRRALSGPCQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPR 99
           :.|:||| |:|:|||| | | |||| :|:|::|||:|:| | |||:|:||||
Db   104 RAARAGG------PGSRARAAGARGCRLRSQLVPVRALGLGHRSDELVRFRFCSGSC-R 155

Qy   100 GARTQHGLALARLQGQG--------RAHGGPCCRPTRYTDVAFLDDRHRWQRLPQLSAAA 151
           ||.|.|.|:||| | || | |||||||| |:::| |:: :.|||
Db   156 RARSPHDLSLASLLGAGALRPPPGSRPVSQPCCRPTRYEAVSFMDVNSTWRTVDRLSATA 215

Qy   152 CGCGG 156
           |||
Db   216 CGCLG 220

RESULT 2
O95441
ID   O95441   PRELIMINARY;   PRT;   237 AA.
AC   O95441;
DT   01-MAR-1999 (TrEMBLrel. 10, Created)
DT   01-MAY-1999 (TrEMBLrel. 10, Last sequence update)
DT   01-MAR-2002 (TrEMBLrel. 20, Last annotation update)
DE   Artemin.
OS   Homo sapiens (Human).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX   NCBI_TaxID=9606;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=99098192; PubMed=9883723;
RA   Baloh R.H., Tansey M.G., Lampe P.A., Fahrner T.J., Enomoto H.,
RA   Simburger K.S., Leitner M.L., Araki T., Johnson E.M. Jr.,
RA   Milbrandt J.;
RT   "Artemin, a novel member of the GDNF ligand family, supports
RT   peripheral and central neurons and signals through the GFRalpha3-RET
RT   receptor complex.";
RL   Neuron 21:1291-1302(1998).
CC   -!- SIMILARITY: BELONGS TO THE TGF-BETA FAMILY.
DR   EMBL; AF115765; AAD13110.1; -.
DR   HSSP; Q07731; 1AGQ.
DR   InterPro; IPR001839; TGFb.
DR   Pfam; PF00019; TGF-beta; 1.
DR   SMART; SM00204; TGFB; 1.
KW   Glycoprotein.
SQ   SEQUENCE   237 AA; 24471 MW; 11C64C4B510CE3AB CRC64;

Query Match   29.1%; Score 244; DB 4; Length 237;
Best Local Similarity   44.8%; Pred. No. 2e-16;
Matches   56; Conservative   17; Mismatches   36; Indels   16; Gaps   3;

Qy   40 QVAKAGGTWLGTHRPLARLRRALSGPCQLWSLTLSVAELGLGYASEEKVIFRYCAGSCPR 99
           :.|:||| |:|:|||| | | |||| :|:|::|||:|:| | |||:|:||||
Db   121 RAARAGG------PGSRARAAGARGCRLRSQLVPVRALGLGHRSDELVRFRFCSGSC-R 172

Qy   100 GARTQHGLALARLQGQG--------RAHGGPCCRPTRYTDVAFLDDRHRWQRLPQLSAAA 151
           ||.|.|.|:||| | || | |||||||| |:::| |:: :.|||
Db   173 RARSPHDLSLASLLGAGALRPPPGSRPVSQPCCRPTRYEAVSFMDVNSTWRTVDRLSATA 232

Qy   152 CGCGG 156
           |||
Db   216 CGCLG 237

RESULT 3
Q920L2
ID   Q920L2   PRELIMINARY;   PRT;   224 AA.
AC   Q920L2;
DT   01-MAY-1999 (TrEMBLrel. 10, Created)
DT   01-MAY-1999 (TrEMBLrel. 10, Last sequence update)
DT   01-MAR-2002 (TrEMBLrel. 20, Last annotation update)
DE   Neurotrophic factor artemin precursor (Adult MALE testis cDNA, RIKEN
DE   FULL-length enriched LIBRARY, clone:4930445K15, FULL INSERT
DE   sequence).
GN   ARTN.
OS   Mus musculus (Mouse).
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX   NCBI_TaxID=10090;
RN   [1]
RP   SEQUENCE FROM N.A.
RX   MEDLINE=99098192; PubMed=9883723;
RA   Baloh R.H., Tansey M.G., Lampe P.A., Fahrner T.J., Enomoto H.,
RA   Simburger K.S., Leitner M.L., Araki T., Johnson E.M. Jr.,
RA   Milbrandt J.;
RT   "Artemin, a novel member of the GDNF ligand family, supports
RT   peripheral and central neurons and signals through the GFRalpha3-RET
RT   receptor complex.";
RL   Neuron 21:1291-1302(1998).
RN   [2]
RP   SEQUENCE FROM N.A.
RC   STRAIN=C57BL/6J; TISSUE=TESTIS;
RX   MEDLINE=21085660; PubMed=11217851;
RA   Kawai J., Shinagawa A., Shibata K., Yoshino M., Itoh M., Ishii Y.,
RA   Arakawa T., Hara A., Fukunishi Y., Konno H., Adachi J., Fukuda S.,
RA   Aizawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,
RA   Saito T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Saito R.,
RA   Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,
RA   Fleischmann W., Gaasterland T., Gissi C., King B., Kochiwa H.,
RA   Kuehl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
RA   Schriml L.M., Staubli F., Suzuki R., Tomita M., Wagner L., Washio T.,
RA   Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,
RA   Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo M.F.,
RA   Brownstein M.J., Bult C., Fletcher C., Fujita M., Gariboldi M.,
RA   Gustincich S., Hill D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,
RA   Lyons P., Marchionni L., Mashima J., Mazzarelli J., Mombaerts P.,
RA   Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,
RA   Sasaki H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F.,
RA   Suzuki H., Toyo-oka K., Wang K.H., Weitz C., Whittaker C., Wiiming L.,
RA   Wynshaw-Boris A., Yoshida K., Hasegawa Y., Kawaji H., Kohtsuki S.,
RA   Hayashizaki Y.;
RT   "Functional annotation of a full-length mouse cDNA collection.";
RL   Nature 409:685-690(2001).
CC   -!- SIMILARITY: BELONGS TO THE TGF-BETA FAMILY.
DR   EMBL; AF109402; AAC98691.1; -.
DR   EMBL; AK015399; BAB29827.1; -.
DR   HSSP; Q07731; 1AGQ.
DR   MGD; MGI:1333791; Artn.
DR   InterPro; IPR001839; TGFb.
DR   Pfam; PF00019; TGF-beta; 1.
DR   SMART; SM00204; TGFB; 1.
KW   Glycoprotein.
FT   CHAIN   112   224   NEUROTROPHIC FACTOR ARTEMIN.
SQ   SEQUENCE   224 AA; 23726 MW; 3328FB794581DF0B CRC64;

Query Match   28.8%; Score 241.5; DB 11; Length 224;
Best Local Similarity   41.5%; Pred. No. 3.3e-16;
Matches   59; Conservative   18; Mismatches   46; Indels   19; Gaps   5;

Qy   23 GPDARGVPVADGEFSSEQVAKAGGTWLGTHRPLARLRRALSGPCQLWSLTLSVAELGLGY 82
           | ::| | :..| | |:||| |:|:|||| | | |||| :|:|::|||:|:|
Db   94 GPALQSPPAA--LRGARARA----GTRSSRARTTDARG--CRLRSQLVPVSALGLGH 143

Qy   152 CGCGG 156
           |||
Db   233 CGCLG 237